AGENCY USE ONLY PERMIT NO.: Amount Rec'd .: Date Rec'd.: Rec'd By: mTG010183 \$600 #64658 Montana Department of WATER PROTECTION BUREAU **FORM** Notice of Intent (NOI) for Montana Pollution Discharge Elimination NOI System Application for New and Existing Concentrated Animal **Feeding Operations** The Application form is to be completed by the owner or operator of a Concentrated Animal Feeding Operation (CAFO) or Aquatic Animal Production Facility. Please read the attached instructions before completing this form. You must print or type legibly; forms that are not legible or are not complete will be returned. You must maintain a copy of the completed application form for your records. Section A - Application Status (Check one): New No prior application submitted for this site. Resubmitted Permit Number: MTG Permit Number: MTG⁰ 1 0 1 8 3 ✓ Renewal Modification Permit Number: MTG Section B - Facility or Site Information (See instruction sheet.): $_{Site\ Name}\ \mathsf{Public}\ \mathsf{Auction}\ \mathsf{Yards}$ Site Location 1803 Minnesota Ave. Billings, MT Nearest City or Town Billings CountyYellowstone Latitude 45 47.178' N Longitude 108 29.279' W Is this facility or site located on Indian Lands? Yes ✓ No Section C - Applicant (Owner/Operator) Information: Owner or Operator Name Patrick Goggins - Robert Cook, General Manager Mailing Address P.O. Box 30758 City, State, and Zip Code Billings, MT 59107 Phone Number 406-245-6447 Is the person listed above the owner? [7] Yes □ No Status of Applicant (Check one) Federal State Private Public Other (specify)

1	Section D - Existing or Pending Permits, Certifications, or Approvals: None					
MPI MPI	DES MTG010183		Re	CRA		
PSD (Air Emissions)			O	ther		
Section	n E – Standard Indu	ıstrial Classific	cation (SIC) Codes	•		
			ects the activity of pr	oject described in Section H.		
	Code A. Primary Code B. Second					
1 Code	5154 - Stockyar	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2			
Code 3	·	Third	Code	D. Fourth		
3		**************************************	3			
Section	F - Facility or Site (Contact Persor	n/Position:			
Name a	nd Title, or Position T	_{Γitle} Robert C	ook, General Man	ager		
	Address P.O. Box 3					
	ate, and Zip CodeBill		07			
	400	6-245-6447				
Phone N	Jumber 400)-240-C44 <i>1</i>				
Section	G – Receiving Surfa	ace Waters(s):				
i I	Outfall/Discharge Lo	ocations: For eac	h outfall, List latitude	and longitude to the necessity and a	d	
Outfall/Discharge Locations: For each outfall, List latitude and longitude to the nearest second and						
		the	name of the receiving			
	Outfall Number	Latitude				
	001	Latitude 45 47.052'N	Longitude 108 28.942'W	g waters Receiving Surface Waters Yegan Drain		
	001 002	Latitude	name of the receivin	g waters Receiving Surface Waters		
	001 002 003	Latitude 45 47.052'N	Longitude 108 28.942'W	g waters Receiving Surface Waters Yegan Drain		
	001 002 003 004	Latitude 45 47.052'N	Longitude 108 28.942'W	g waters Receiving Surface Waters Yegan Drain		
	001 002 003	Latitude 45 47.052'N	Longitude 108 28.942'W	g waters Receiving Surface Waters Yegan Drain		
	001 002 003 004	Latitude 45 47.052'N	Longitude 108 28.942'W	g waters Receiving Surface Waters Yegan Drain		

Section H – Concentration Animal Feeding Operation Characteristics

<u>Waste Production, Storage and Disposal</u>

	Animal type	Number in Open Confinement	Number Housed Under Roof
	Mature Dairy Cows		
	Dairy Heifers		
	Veal Calves	A Paradiaka kanan akin kanan kanan ayan ayan ayan ayan ayan a	
Ø	Cattle (not dairy or veal)	5500	
☑	Swine (55 lbs or over)		150
	Swine (55 lbs or under)		
	Horses		
Ø	Sheep or Lambs		1500
	Turkeys		
	Chickens (broilers)		
	Chickens (layers)		
	Ducks		
	Other (Specify:)		
	Other (Specify:)		
	Other (Specify:)		

Manure, Litter and/or Wastewater Production and Use. How much manure, litter, and process wastewater is generated annually by the facility?						
Solid (tons	• •					
If land approcess was	plied, how many acres of land under control of the permit applicant are available to apply the manure, litter, or astewater generated from the facility? (Note: Do not include setback distances in available acreage Acres					
How much (tons):0	h manure, litter, and process wastewater is transferred to other persons per year? (estimated) Solid Liquid/Slurry (gallons):					
1	containment structures built after February 2006? NA Do the waste containment structures have 10 feet of separation between the pond bottom and any bedrock formations? NA Do the waste containment structures have 4 feet of separation from the pond bottom and any ground water? Waste any of the waste containment structures built within 500 feet of any existing well?					

Type of Containment/Storage	Total Capacity	Units (gallons or tons)	Days of Storage	
☐ Anaerobic Lagoon			-8	
☐ Storage Pond #1				
☐ Storage Pond #2				
☐ Storage Pond #3				
☐ Storage Pond #4				
☐ Storage Pond #5				
☐ Above Ground Storage Tank				
☐ Below Ground Storage Tank #1				
☐ Below Ground Storage Tank #2				
☐ Underfloor Pits				
☐ Roofed Storage Shed				
☐ Concrete Pad				
☐ Impervious Soil Pad				
☑ Other (Specify:City Waste Treatment)	Unlimited			
Other (Specify:				
Physical Data for CAFO				
the Department (Form NMP). Check the box below developed in accordance with ARM 17.30.1334 and One) Does the facility have an NMP? Date NMP was developed: 2006 Date NMP was last modified:2013 NMP has not been prepared; provide detailed exp	implemented upon	the effective date of pern	nit coverage. (Che	ck
Section I — Supplemental Information				

Section J - CERTIFICATION

Permittee Information:

This Form NMP must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA]

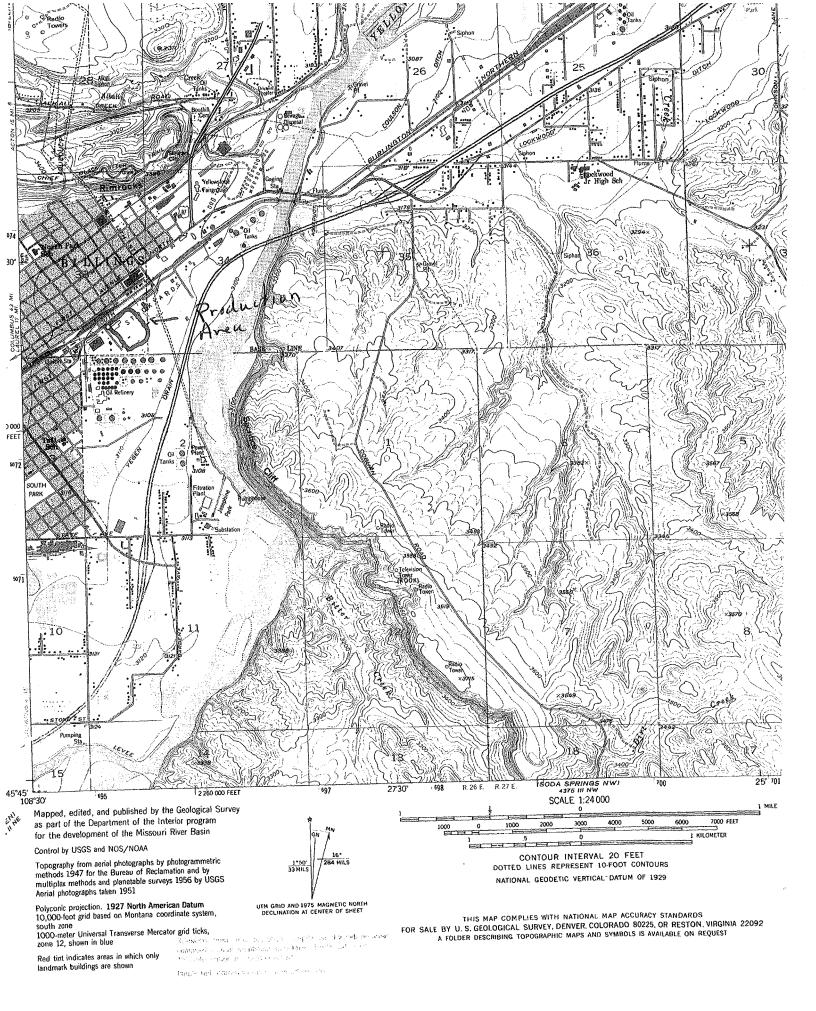
A. Name (Type or Print) Robert Couk	
B. Title (Type or Print) General Manager	C. Phone No. 245 -6447
D. Signature	E. Date Signed

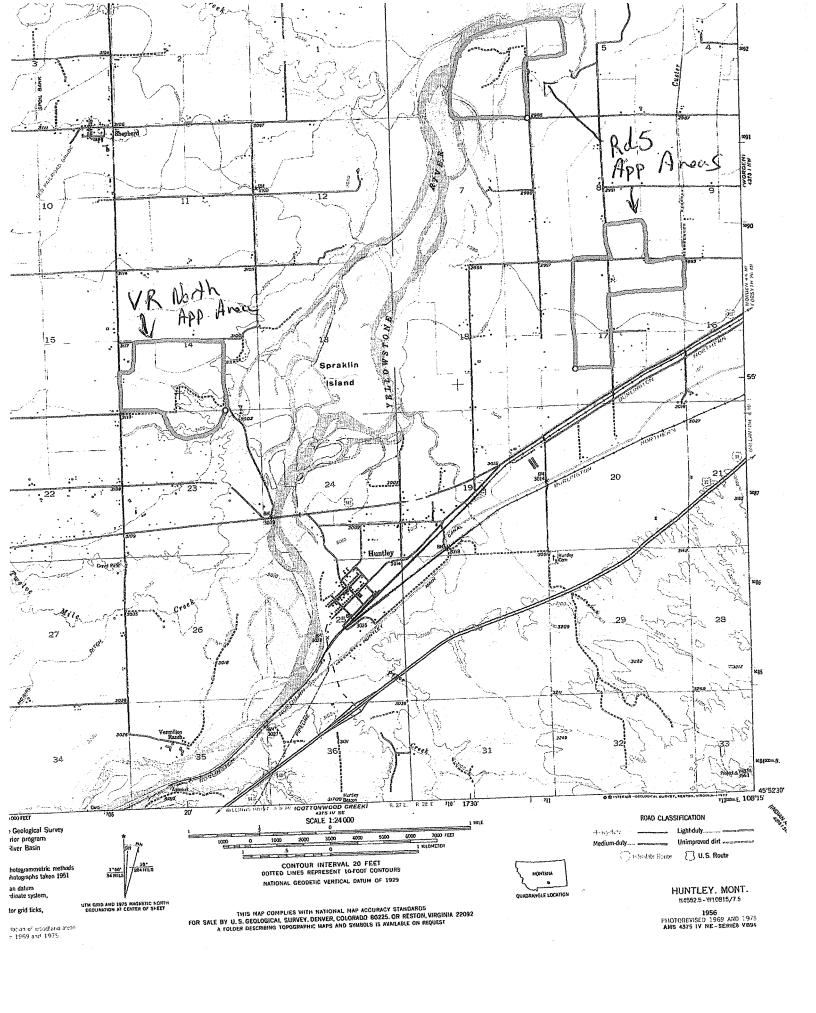
The Department will not process this form until all of the requested information is supplied, and the appropriate fees are paid. Return this form (NOI) and the applicable fee to:

Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620-0901
(406) 444-3080

RECENTING & COMPLANCE DIV.

PERMITING & COMPLANCE DIV.





MTG0/0/83

Date Rec'd.:

Amount Rec'd.:

Check No.: V #64658 Rec'd By:



Montana Department of

AGENCY USE ONLY

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WATER PROTECTION BUREAU

FORM NMP

Nutrient Management Plan

READ THIS BEFORE COMPLETING FORM: Before completing this form (Form NMP), Concentrated Animal Feeding Operation (CAFO) operators need to read the General Permit, particularly Part IV.A. CAFO operators also need to read the "Instructions For filling out Form NMP," found at the back of this form. Form NMP is intended to help CAFO operators develop a site-specific Nutrient Management Plan, in compliance with Part IV.A of the General Permit and all applicable State rules and statutes. Your Nutrient Management Plan must be maintained at the site as required in Part III of the General Permit. Sections B and C on your Form NMP must state the information exactly the same way as it was stated on the most recently submitted version of your NOI-CAFO. Attach additional pages as necessary, indicating the corresponding section number on this NMP form. The 2013 General Permit, current fee schedule, and related forms are available from the Water Protection Bureau at (406) 444-3080 or http://www.deq.mt.gov/wqinfo/MPDES/CAFO.asp

Section A - NMP St	atus:		
New	No prior NMP submitted for this site.		
Resubmitted	Previous NMP found incomplete.		
✓ Modification	Change or update to existing NMP.		
□New 2013	New 2013 version of NMP.		
Section B – Facility			
Facility Name Public	: Auction Yards		
Facility Location 180	03 Minnesota Ave., Billings, MT		
1 active Execution			
Nearest City of Town		County	
Nearest City of Town		CountyYellowstone	
Nearest City of Towr	Billings		
Nearest City of Town Section C – Applica Owner or Operator N Mailing Address P.C	Billings nt (Owner/Operator Information): ame Patrick GogginsRobert Cook, Ge D. Box 30758		
Nearest City of Town Section C – Application Owner or Operator N Mailing Address P.C City, State, and Zip c	Billings nt (Owner/Operator Information): tame Patrick GogginsRobert Cook, Ge D. Box 30758 ode Billings, MT 59107		
Nearest City of Town Section C – Applica Owner or Operator N Mailing Address P.C	Billings nt (Owner/Operator Information): tame Patrick GogginsRobert Cook, Ge D. Box 30758 ode Billings, MT 59107		

1. Livestock Statistics		
Animal Type and number of animals	# of Days on Site (per year)	Annual Manure Production (tons, cu. yds. or gal
1. 150,000 cattle ave wt 800lb	2 days	835 tons dry
2. 60,000 sheep ave wt 100lbs	2 days	60 tons dry
3. 1,500 hogs ave wt 150lbs	2 days	1 ton dry
4.		
5.		
6.		
7.		
8.		
escribe Manure handling at the fac e is scraped out of pens and alle	yways 2 or more times per weel	k, depending on volum
Describe Manure handling at the facture is scraped out of pens and allest ped manure piles are stored within requency of Manure Removal from	yways 2 or more times per weel the yards confinement areas:	k, depending on volum
Describe Manure handling at the factorie is scraped out of pens and allest oed manure piles are stored within requency of Manure Removal from the ed to application areas after hay have	yways 2 or more times per weel the yards confinement areas: arvest in fall.	
Describe Manure handling at the facture is scraped out of pens and allest ped manure piles are stored within requency of Manure Removal from	yways 2 or more times per weel the yards confinement areas: arvest in fall.	

	3. Waste Control Structures						
Length	Width	Depth	Volume	Number of			
(ft.)	(ft.)	(ft.)	(cubic ft.	days of			
			or gallons)	storage			
See	Attached			and the second s			
2000	2	2 height	NA	NA			
	(ft.) See	(ft.) (ft.) See Attached	(ft.) (ft.) (ft.) See Attached	(ft.) (ft.) (cubic ft. or gallons) See Attached			

What is the 24 hr. 25 yr. storm event at this facility $\frac{2.7}{}$					
Production area: 21.7 acres. Type of lot (dirt or paved): Paved Concrete					
Area contributing drainage form outside CAFO that enters confinement areas and waste storage, conveyance, or treatment structures:					
What is the annual precipitation during the critical storage period 6					
How much freeboard do the pond(s) have N/A					
4. Disposal of Dead Animals.					
Describe how dead animals are disposed of at this facility: Hauled to City of Billings Landfill					

5. Clean Water Diversion Practices
Describe how clean water is diverted from production area: Natural grade and diversion berms and ditches prevent any clean water from entering the facility. The two barns have gutters that direct clean rain water away from the confinement area.
6. Prohibiting Animals and Wastes from Contact with State Waters Describe how animals and wastes are prohibited from direct contact with state waters:
All animals are kept within the pens at all times.
Describe how Chemicals and other contaminants are handled on-site: Chemicals are not used on site.
7. Best Management Practice (BMPS)
Describe in detail all temporary, permanent and structural BMPS which will be used to control runoff of pollutants from facility's production area. Indicate the location of these measures. If BMPS are not installed include a schedule for implementation of each of these measures. Examples of BMP measures could include but are not limited to: constructing ditches, terraces,, and waterways above and open lot to divert clean water run on; installing gutters, downspouts and buried conduits to divert roof drainage; providing more roofed area: decreasing open lot surface area; repairing of adjusting water systems to minimize water wastage; using practical amounts of water for cooling purposes; recycling water if practical and applicable. Production Area BMP's
All drains are cleaned and inspected to insure proper flow. Gutters are installed on sale barns. Livestock water is not allowed to run over.
Describe in detail all temporary, permanent and structural Best Management Practices (BMPs) which will be used to control runoff of pollutants from facility's land production area. Indicate the location of these practices. If not already in use, include a schedule for implementation of each of these measures. Attached details and specifications may be used to supplement this description. Examples of BMP

measures could include but are not limited to: maintaining setbacks from surface waters for manure applications; managing irrigation practices to prevent ponding of wastewater on land application sites;

never spray irrigating waste on to frozen ground: consulting with the Department prior to applying any						
liquid waste to frozen or snow-covered ground; applying wastes at agronomic rates.						
Land Application BMP's Manure is spread on fields after final hay and corn harvest (late summer/early fall). Fields are not irrigated after manure application. The next irrigation occurs approximately 5 months after manure application and incorporation. Manure is not applied within setbacks from open water or conveyance. All manure is applied at agronomic rates based on P Index Assessment.						
Buffers Constructed Wetlands Infiltration Field Set backs Other examples	☐ Yes☐ No ☐ Yes☐ No ☐ Yes☐ No ☐ Yes☐ No ✓ Yes☐ No	Conservation Tillage Grass Filter Residue Management Terrace	Yes No Yes No Yes No Yes No			
8. Implementation, Operate The permittee is required maintenance of the facility Has a guidance document	to develop guidance ac	ddressing implementation of the described in Part 2 of the	of NMP, proper operation and			
Certify the document addr	ress the following requ	irements:				
Implementation of the NM	IP:	No				
Facility operation and mai	intenance: Yes	No				
Record keeping and repor	ting Yes	□No				
Sample collection and anal	lysis:	No				
Manure transfer	✓ Yes	No				
Provide name, date and loc PAYS NMP and Guidance	cation of most recent of e Document 2013, PA	documentation: AYS Sale Barn Office				
If your answer to any of the above question is no, provide explanation:						

Section E – Land Application	
Will manure be land applied to land either owned, rented, or leased by the owner or operator of the facility?	
Yes If yes, then the information requested in Section E must be provided.	
No If no, then provide an explanation of how animal waste at this facility are managed.	

Photos and/or Maps

Attach an aerial photograph or map of the site where manure is to be applied. (Use multiple photos/maps if necessary to show required details.) The photo(s)/map(s) must be printed on no larger than an 11"X 17" piece of paper, and must clearly identify the following items:

- Individual field boundaries for all planned land application areas
- A name, number, letter or other means of identifying each individual land application field
- The location of any downgradient surface waters.
- The location of any downgradient open tile line intake structures
- The location of any downgradient sinkholes
- The location of any downgradient agricultural well heads
- The location of all conduits to surface waters
- The specific manure/waste handling or nutrient management restrictions associated with each land application field
- The soil type(s) present and their locations within the individual land application field(s)
- The location of buffers and setbacks around state surface waters, well heads, etc.

Land Application Equipment Calibration

Describe the type of equipment used to land apply wastes and the calibration procedures:

See attached calibration protocol

Manure Sampling and Analysis Procedures

A representative manure sample will be analyzed a minimum of once annually for Total Nitrogen, and Total Phosphorus. Analysis results will be reported in lbs/ton or lbs/1,000 gal. Results of these analyses will be used in determining rates for manure, litter, and process wastewater.

Manure Sample collection will occur according to ARM 17.30.1334

Other (describe)

Soil Sampling and Analysis Procedures

Representative soil (composite) samples from the top 6 inches layer of soil for each field where manure will be applied must be analyzed for phosphorus content at least once every three years. Analyses will be conducted by a qualified laboratory, using the Olsen P test. Results will be reported in parts per million (ppm) and will be used in determining application rates for manure, litter, and process wastewater

Soil samples collection will occur according the methods in ARM 17.30.1334

Other (describe)

Phosphorus Risk Assessment

The permittee shall access the risk of phosphorus contamination of state waters. An assessment shall be conducted for each field, under the control of the operator, to which manure, litter or process wastewater will or

may be applied. If a new field is added in the future, then the permittee must submit a revised (modified) NMP. The permittee has the option of using Method A or Method B (below) to complete the assessment. Copies of all tables and calculations used to complete the assessments, as well as the results of the assessments, shall be submitted to the Department and copies shall be maintained on-site at the facility and available for Departmental review. The results of the assessments shall be used to determine the appropriate basis for land application of wastes from the facility.

Method Used

Indicate which method will be used to determine phosphorus application:

Method A - Representative Soil Sample Method B - Phosphorus Index will Use P Index

Method A – Representative Soil Sample

- a. Obtain one or more representative soil sample(s) from the field per 17.30.1334
- b. Have the sample analyzed for Phosphorus by a qualified lab. The "Olsen P test" must be used for the analysis, and the result must be reported in parts per million (ppm)
- c. Using the results of the Olsen P test, determine application basis according to the Table below.

Soil Test

Olsen P Soil Test Results (ppm)	Application Basis
<25.0	Nitrogen Needs of Crop
25.1 - 100.0	Phosphorus Needs of Crop
100.0 – 150.0	Phosphorus Needs up to Crop Removal Rate
>150.0	No Application allowed

Method B – Phosphorus Index

- a. Complete a phosphorus Index according to the crop grown on each field. Complete table in Appendix A to calculate phosphorus index. For information on filling out specific sections in Appendix A, please refer to the method as described in Natural Resource Conservation Service (NRCS), Agronomy Technical Note MT-77 (rev3), January 2006.
- b. Using the calculated Total Phosphorus Index Value, assign the overall site/field vulnerability to phosphorus loss according to the table below.

Total Phosphorus

Total Phosphorus Index Value	Site Vulnerability to Phosphorus Loss
<11	Low
11-21	Medium
22-43	High
>43	Very High

c. Using the calculated Site Vulnerability to Phosphorus Loss, determine the appropriate application basis according to the table below.

Site Vulnerability to Phosphorus Loss	Application Basis
Low	Nitrogen Needs
Medium	Nitrogen Needs
High	Phosphorus Need Up to Crop Removal
Very High	Phosphorus Crop Removal or No Application

The applicant has 2 ways in which to report how manure or process wastewater application rates can be reported to DEQ.

Linear Approach. Expresses rates of application as pounds of nitrogen and phosphorus. CAFOs selecting the linear approach to address rates of application must include in the NMP submitted to the permitting authority the following information for each crop, field, and year covered by the NMP, which will be used by the permitting authority to establish site-specific permit terms:

- The maximum application rate (pounds/acre/year of nitrogen and phosphorus) from manure, litter, and process wastewater.
- The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field. [If a state does not have an N transport risk assessment, the NMP must document any basis for assuming that nitrogen will be fully used by crops.] The CAFO must specify any conservation practices used in calculating the risk rating.
- The crops to be planted or any other uses of a field such as pasture or fallow fields.
- The realistic annual yield goal for each crop or use identified for each field.
- The nitrogen and phosphorus recommendations from in ARM 17.30.1334 (technical standard) for each crop or use identified for each field.
- Credits for all residual nitrogen in each field that will be plant-available.
- Consideration of multi-year phosphorus application. For any field where nutrients are applied at a rate based on the crop phosphorus requirement, the NMP must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement.
- All other additions of plant available nitrogen and phosphorus (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen).
- The form and source of manure, litter, and process wastewater to be land-applied.
- The timing and method of land application. The NMP also must include storage capacities needed to ensure adequate storage that accommodates the timing indicated.
- The methodology that will be used to account for the amount of nitrogen and phosphorus in the manure, litter, and wastewater to be applied.
- Any other factors necessary to determine the maximum application rate identified in accordance with this Linear Approach.
- 2. Narrative Rate Approach. Expresses a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied. CAFOs selecting the narrative rate approach to address rates of application must include in the NMP submitted to the permitting authority the following information for each crop, field, and year covered by the NMP, which will be used by the permitting authority to establish site-specific permit terms:
- The maximum amounts of nitrogen and phosphorus that will be derived from all sources of nutrients (pounds/acre for each crop and field).
- The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field. The CAFO must specify any conservation practices used in calculating the risk rating.
- The crops to be planted in each field or any other uses of a field such as pasture or fallow fields, including alternative crops if applicable. Any alternative crops included in the NMP must be listed by field, in addition to the crops identified in the planned crop rotation for that field.
- The realistic annual yield goal for each crop or use identified for each field for each year, including any alternative crops identified.
- The nitrogen and phosphorus recommendations from *[the permitting authority to specify acceptable sources]* for each crop or use identified for each field, including any alternative crops identified.
- The methodology (including formulas, sources of data, protocols for making determination, etc.) and actual data that will be used to account for: (1) the results of soil tests required by Parts II.A.4.b and III.A.3.g of this

permit, (2) credits for all nitrogen in the field that will be plant- available, (3) the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied, (4) consideration of multi-year phosphorus application (for any field where nutrients are applied at a rate based on the crop phosphorus requirement, the methodology must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement), (5) all other additions of plant available nitrogen and phosphorus to the field (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen), (6) timing and method of land application, and (7) volatilization of nitrogen and mineralization of organic nitrogen.

- Any other factors necessary to determine the amounts of nitrogen and phosphorus to be applied in accordance with the Narrative Rate Approach.
- NMPs using the Narrative Rate Approach must also include the following projections, which will not be used by the permitting authority in establishing site-specific permit terms:
- i. Planned crop rotations for each field for the period of permit coverage.
- ii. Projected amount of manure, litter, or process wastewater to be applied.
- iii. Projected credits for all nitrogen in the field that will be plant-available.
- iv. Consideration of multi-year phosphorus application.
- v. Accounting for other additions of plant-available nitrogen and phosphorus to the field.
- vi. The predicted form, source, and method of application of manure, litter, and process wastewater for each crop
 - If the receiving water is on the 303(d) list for nutrients then the narrative rate approach must be used.
 - a. For the Linear Approach the permittee will complete the Nutrient Budget Worksheet, below, for the next 5 years to which manure or process waste water is or may be applied. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

		14-38 Crop	THE RESERVE THE PARTY OF THE PA	te Yea	One of the second secon	eneteres en montante en		
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weigh Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1-5
Furrow Irrigation Erosion	N/A	Tail water recovery, Q\$>6 very erodible soils, or Q\$>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	Q.	X 1.5	30
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	on silty soils 3- 15% slopes,	spray on silt soil >15% slope	soils >8% slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	l	X 0.5	.0.5
Olson Soil Test P		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	-5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	ì	Surface applied to pasture or >3 months before crop emerges	0	X 1.0	0
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	1	Surface applied to pasture or >3 months before crop emerges	2	X 1.0	2
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	6-1	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

_		t Budget Worksheet			
		entification: UR NHy-36 Year	: 2014 C	rop: Alfalfo	:
		ed Crop Yield: 7			
		orus index results or Phosphoru		soil test: 12.	5
		of Application: Rose	Discharge		
		vill application occur: Sep =	Oct		
Nu	trien	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	336		Msil
2	(-)	Credits from previous legume crops, lbs/ac	80		MSU DEO-9 DEO-9
3	(-)	Residuals from past manure production lbs/acre	8-2		DEQ-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		·
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	Z48		
7		Total Nitrogen and Phosphorus in manure, Ibs/ton or Ibs/1000 gal (from manure test)	27		1057
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	0.6		DEQ-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16.2		
10		Additional Nutrients needed, lbs/acre (calculated above)	248	,	
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	15-3		

15.3 T/a x 38 ac = 518 hons

Field: K	15 South	~ Gubel Crop	Contract Con					THE RESIDENCE OF THE PERSON NAMED IN COLUMN
Field	None (0)	Low (1)	Medium (2)	High (4)	Very High	Risk Value	Weight	Weight
Category		,			(8)	(0,1,2,4,8)	Factor	Risk
Factor Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15	QA> 10 for		X 1.5	
SOIL ELOSION	IVA	C3 tons/as/yi		tons/ac/vr	erodible	Ì	X 1.5	1.5
				,, ,.	soils	•		
Furrow	N/A	Tail water	QS> for erosion	QS> for	QA>6 for		X 1.5	<i></i>
Irrigation		recovery, QS>6	resistant soil	erodible soils	very erodible	2		3
Erosion		very erodible			soils	-		
		soils, or QS>10					İ	İ
		other soils						
Sprinkler	All fields 0-		Medium spray	Medium	Low spray	6	X 1.5	O
Irrigation	3% slope, all	'	on clay soils 3-	spray on clay	i i]	
Erosion	sandy fields	15% slopes,	8% slopes, large		>8% slopes			
	or field	large spray on	spray on clay	slope, low				
	evaluation indicates	silty soils 8- 15% slope, low	soils >15%	spray on clay soil 3-8%				
	little or no	spray on silt	spray on silt soil					
		soils 3-8%	>15% slope	spray on				
	spray on	large spray on		silty soils				
	silts 3-8%	clay soil 3-15%		>15% slopes				
		slope						
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	1	X 0.5	-5
Olson Soil		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	ener.
Test P						t.		-5
Commercial	None	Placed with	incorporated <3	Incorporated	Surface		X 1.0	ومطاعف
P Fertilizer	Applied	Planter or	months prior to	>3 months	applied to	0		0
Application		injection	planting or	before crop	pasture or			
Method		deeper than 2	surface applied	or surface	>3 months			
		inches	during growing	applied <3 months	before crop			
			season	before crop	emerges	İ		
				emerges				
Commercial	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	 	X 1.0	
	Applied	P205	P205	lbs/ac P205	P205	0		0
Application								
Rate					1			
Organic P	None	Injected	Incorporated <3	Incorporated	Surface			->
	Applied	deeper than 2	months prior to	>3 months	applied to	12		2
Application		inches	planting or	before crop	pasture or		X 1.0	
Method			surface applied	or surface	>3 months			
			during growing	applied <3	before crop			
			season	months before crop.	emerges			
0 1- 5	Name	20 lbs /s =	21 00 lbs/ss	91-150	>150 lbs/ac	-	X 1.0	
Organic P Source	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	lbs/ac P205	P205	2)	1, 1.0	4
Application	Applied	F203	7 203	103/401203	1.203			'
Rate								1
	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or	1	X 1.0	
Concentrate	. 2,000 1661	feet, or			application	1		17
d Surface		functioning			are directly	-		-
Water Flow		grass			into			
		waterways in	1		concentrate			
		concentrated			d surface			
		surface water			water flow			
		I	I	1	areas.	1	1	1

Nı	ıtrien	t Budget Worksheet Garage entification: Rd 5 500 Year	by (37		
			: 2014 C	crop: Alfali	(در
		ed Crop Yield:		***************************************	
		orus index results or Phosphorus	s application from	soil test:	
		of Application:			
***********		rill application occur:	1		
Nu	itrient	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	336		Msce
2	(-)	Credits from previous legume crops, lbs/ac	80		MSUL DEO-9 DEO-9
3	(-)	Residuals from past manure production lbs/acre	94		DE0-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	162		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		Test
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	.6		Test DEG-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16-2		
10		Additional Nutrients needed, lbs/acre (calculated above)	16-2		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	10		-

10 t/a x 37 = 370 to

Field: Kd	5 Shop None (0)	24 Cros Low (1)	Medium (2)	ر Yea High (4)	very High	Risk Value	Weight	Weight
Category Factor	wone (o)	LOW (1)	wediam (2)	riigii (44)	(8)	(0,1,2,4,8)	Factor	Risk
Soil Erosion	NA	<5 tons/as/yr		10-15 tons/ac/yr	QA> 10 for erodible soils	l	X 1.5	1-5
Furrow Irrigation Erosion	N/A	Tail water recovery, Q\$>6 very erodible soils, or Q\$>10 other soils		QS> for erodible soils	QA>6 for very erodible soils	2	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	on silty soils 3- 15% slopes,	8% slopes, large spray on clay soils >15%	slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	<u>ව</u>
Runoff Class Olson Soil	Negligible	Very Low or Low <20 ppm	Medium 20-40 ppm	High 40-80 ppm	Very High	<u> </u>	X 0.5	-5
Test P						~~_		(
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	0	X 1.0	0
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	1	Surface applied to pasture or >3 months before crop emerges	2	X 1.0	2
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

Nı	ıtrien	t Budget Worksheet			
		entification: Rd 5 Ship Year	r: 2014 C	crop: Alfort	for :
Ex	pecte	ed Crop Yield: 7	-		
Ph	osph	orus index results or Phosphoru	s application from	soil test: 1 4	
			Discharge		
W	hen w	vill application occur: \leq_{ef}	-OcT		
Νι	itrien	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	336		Msu
2	(-)	Credits from previous legume crops, lbs/ac	80	,	
3	(-)	Residuals from past manure production lbs/acre	141		
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	O		
6		= Additional Nutrients Needed, lbs/acre	115		
7		Total Nitrogen and Phosphorus in manure, Ibs/ton or Ibs/1000 gal (from manure test)	27		
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	. 6		
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16-2		
10		Additional Nutrients needed, lbs/acre (calculated above)	115		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16.2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	7.1		

7.1 T/a x 24= 170 tons

The second secon	5 Kant): 141falt	ادر Yea	THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN	CONTRACTOR CONTRACTOR	Contract Con	
Field	None (0)	Low (1)	Medium (2)	High (4)		Risk Value	Weight	Weight
Category					(8)	(0,1,2,4,8)	Factor	Risk
Factor								
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15	QA>10 for	ì	X 1.5	2 2
				tons/ac/yr	erodible	l		1-5
					soils			ļ
Furrow	N/A	Tail water	QS> for erosion	QS> for	QA>6 for		X 1.5	50025
Irrigation		recovery, QS>6	resistant soil	erodible soils	very erodible	2		3
Erosion		very erodible			soils			
		soils, or QS>10						
		other soils						
Sprinkler	All fields 0-	Medium spray	Medium spray	Medium	Low spray	-	X 1.5	0
Irrigation	3% slope, all	on silty soils 3-	on clay soils 3-	spray on clay	on clay soils	0		-
Erosion	sandy fields	15% slopes,	8% slopes, large	soils >8%	>8% slopes		1	<u> </u>
	or field	large spray on	spray on clay	slope, low	•			
	evaluation	silty soils 8-	soils >15%	spray on clay				
	indicates	15% slope, low	1	soil 3-8%				
	little or no	spray on silt	spray on silt soil	slope, low				
	runoff large	soils 3-8%	>15% slope	spray on				
	spray on	large spray on	•	silty soils				
	silts 3-8%	clay soil 3-15%		>15% slopes				
	0	slope						
Runoff Class	Negligible	Very Low or	Medium	High	Very High		X 0.5	Section .
		Low		Ŭ		1		-5
Olson Soil		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm		X 0.5	1
Test P			• • •	6		2		(
Commercial	None	Placed with	Incorporated <3	Incorporated	Surface	 	X 1.0	
P Fertilizer	Applied	Planter or	months prior to	1	applied to	0		0
Application	Applied	injection	planting or	before crop	pasture or			
Method		deeper than 2	surface applied	or surface	>3 months			
Methon		inches	during growing	applied <3	before crop	1		
		menes	season	months	emerges	}		
			3000	before crop				1
				emerges				
C	Ninna	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	 	X 1.0	-
	None	1	P205	lbs/ac P205	P205	0	X 1.0	0
P Fertilizer	Applied	P205	P205	103/407203	1 203	1		1
Application								
Rate					ļ <u></u>		 	
Organic P	None	Injected	Incorporated <3	1	1		1	7
Source	Applied	1 .	months prior to	1	applied to	1	V 1 2	-
Application		inches	planting or	before crop	pasture or		X 1.0	
Method			surface applied	or surface	>3 months			
			during growing	applied <3	before crop			
			season	months	emerges			
				before crop.				
Organic P	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	4	X 1.0	4
Source	Applied	P205	P205	lbs/ac P205	P205			
Application					1			
Rate								
Distance to	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or		X 1.0	
Concentrate		feet, or			application	2		2
d Surface		functioning			are directly			
Water Flow		grass			into			
		waterways in			concentrate	1		
		concentrated			d surface			
		surface water			water flow			
					areas.			
		l Value: じ	A CONTRACTOR OF THE PROPERTY O	1	1			

Νυ	itrien	t Budget Worksheet			
		entification: 2 of 5 /Lautz Year	: 2014 C	rop: AIFGIF	(
		d Crop Yield: 7			
Ph	ospho	orus index results or Phosphorus	s application from	soil test: 14	
		of Application:	Discharge		
		rill application occur: Sep	-0ct	~	-
Nu	trient	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	336		MSSL
2	(-)	Credits from previous legume crops, lbs/ac	80		M&U DC0-9 DC0-9
3	(-)	Residuals from past manure production lbs/acre	122		Dea-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	134		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	. 60		
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16.2		
10		Additional Nutrients needed, lbs/acre (calculated above)	134		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	8.27		

8.2 T/a x 382 314 Tors

Field: RIS Pickers S 35crop: A Chalfa Year: 2014									
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk	
Soil Erosion	NA	<5 tons/as/yr		10-15 tons/ac/yr	QA> 10 for erodible soils	(X 1.5	1.5	
Furrow Irrigation Erosion	N/A	Tail water recovery, Q\$>6 very erodible soils, or Q\$>10 other soils		QS> for erodible soils	QA>6 for very erodible soils	2	X 1.5	3	
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8- 15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0	
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	1	X 0.5	.5	
Olson Soil Test P	general management for	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	て	X 0.5	1	
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	0	X 1.0	0	
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	U	X 1.0	0	
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		applied to pasture or >3 months before crop emerges	7	X 1.0	2_	
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	-	X 1.0	4	
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	1	X 1.0	2	

Νι	itrien	t Budget Worksheet 35			
		entification: Rd 5 Prickers Year	: 2014 C	rop: Alfalf	هر ا
		d Crop Yield: 7 tons			
		orus index results or Phosphorus		soil test: 14	
		of Application: Recr 1	Dischage		
		vill application occur: Sep	-oct		
Nu	trient	t Budget '	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	336		msu
2	(-)	Credits from previous legume crops, lbs/ac	80		Msu Deo-9 Dea-9
3	(-)	Residuals from past manure production lbs/acre	160		Dea-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	96		
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		TEST
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	-6		DEQ-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16-2		
10		Additional Nutrients needed, lbs/acre (calculated above)	96		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16.2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	6		

les to lax 35a = 210 +

Appendix A: Phosphorus	Index Worksheet	(Complete for	each field and c	rop)

Field: Zd	5 B. 11	JO Crop	: Grass	Yea				***************************************
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA ·	<5 tons/as/yr		10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, Q\$>6 very erodible soils, or Q\$>10 other soils	resistant soil	QS> for erodible soils	QA>6 for very erodible soils	2	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	on silty soils 3- 15% slopes, large spray on silty soils 8-	Medium spray on clay soils 3- 8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	0	X 1.5	3
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High		X 0.5	-5
Olson Soil Test P		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	182	X 0.5	- 5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	1	Surface applied to pasture or >3 months before crop emerges	0	X 1.0	
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges	2	X 1.0	_ ~_
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	8	X 1.0	8
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

Ni	itrien	t Budget Worksheet			
		entification: Del S B. // Year	: 2014 C	rop: Grass	:
		d Crop Yield: 5		Top: Capra 3 3	
		orus index results or Phosphorus	s application from	soil test: 19	-5
			Discharg		
W	hen w	vill application occur: See	- U e T		
Nu	trient	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	125		MSW
2	(-)	Credits from previous legume crops, lbs/ac	0		MSW DEQ-9 DEQ-9
3	(-)	Residuals from past manure production lbs/acre	37		DE0-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	88		
				40	
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	-6		
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16.2		
10		Additional Nutrients needed, lbs/acre (calculated above)	88		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16.2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	5.4		

5.4 +/a x 36 a = 195 +

Field: Rd	5 Shop		THE RESIDENCE OF THE PARTY OF T	CONTRACTOR DESCRIPTION OF THE PROPERTY OF THE		CONTRACTOR CONTRACTOR		***************************************
Field Category	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Factor Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	l	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	7_	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	15% slopes, large spray on silty soils 8-	Medium spray on clay soils 3- 8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	soils >8% slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	(X 0.5	. 5
Olson Soil Test P	wang.co.ch. yil 40 (40 40	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	-5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges	0	X 1.0	3
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	1	Surface applied to pasture or >3 months before crop emerges	2	X 1.0	2
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

Nu	trient	Budget Worksheet			
Fie	eld ide	entification: Rd 5 Shop 7 Year	: 2014 C	rop: Grass	:
		d Crop Yield: \$			
		rus index results or Phosphoru		soil test: 13	. 3
		of Application: Per V	orscharge		
		ill application occur: Seg	· Oct		T
Nu	trient	Budget	Nitrogen-based	Phosphorus-	Source of
			Application	based Application	information
1		Crop Nutrient Needs, lbs/acre	125		msie
2	(-)	Credits from previous legume crops, lbs/ac	0		Msu Dec-9 Dec-9
3	(-)	Residuals from past manure production lbs/acre	37		DE0-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	6		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	88		

27

88

16.2

5.4

Comments:

5.4 +/ax 7 ac = 38 +

Total Nitrogen and Phosphorus in manure,

lbs/ton or lbs/1000 gal (from manure test)

for Phosphorus based application use 1.0

Manure, lbs/ton or

Additional Nutrients

Available Nutrients in

gal (calculated above)
= Manure Application

Rate, tons/acre or 1000

lbs/1000 gal

above)

gal/acre

Nutrient Availability factor,

= Available Nutrients in

needed, lbs/acre (calculated

Manure, lbs/ton or lbs/1000

7

8

9

10

11

12

(/)

(x)

Appendix A: Phosphorus Index Worksheet	(Complete for each field and crop)	
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Field: Ru	None (0)	Low (1)	D: Carass Medium (2)	Yea High (4)	very High	Risk Value	Weight	Weight
Category Factor	None (o)	LOW (1)	wediam (2)	Tilgii (4)	(8)	(0,1,2,4,8)	Factor	Risk
Soil Erosion	NA	<5 tons/as/yr		10-15 tons/ac/yr	QA> 10 for erodible soils	l	X 1.5	1-5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils		QS> for erodible soils	QA>6 for very erodible soils	2	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8- 15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	ì	X 0.5	- 5
Olson Soil Test P		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm		X 0.5	-5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges	0	X 1.0	0
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	ł.	Surface applied to pasture or >3 months before crop emerges	7	X 1.0	2
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	e-	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

		t Budget Worksheet			
Fig	eld id	entification: PUS Ships Year		crop: Grass	;
		d Crop Yield: 5 to-s			-25-
		orus index results or Phosphoru		soil test: 13-	\$
Mo	ethod	of Application: Remainder of Application occur: September 1	Dischenge		
W	hen w	rill application occur: Sep	-0 et		
Nu	itrieni	Budget	Nitrogen-based	Phosphorus-	Source of
			Application	based	information
-	Т	Crop Nutrient Needs,		Application	
1		lbs/acre	125	,	M360
-	-	Credits from previous			
2	(-)	legume crops, lbs/ac	0		DE0-9
		Residuals from past manure			MSU DEO-9
3	(-)	production lbs/acre	41		DE0-9
	1	Nutrients supplied by			
4	(-)	commercial fertilizer and	ତ		
		Biosolids, lbs/acre			
5	(-)	Nutrients supplied in			
		irrigation water, lbs/acre	9		
6		= Additional Nutrients	84		
<u> </u>		Needed, lbs/acre	8 1		
				1.00	
		Total Nitrogen and	- 45		
7		Phosphorus in manure,	27		
		lbs/ton or lbs/1000 gal (from manure test)			
		Nutrient Availability factor,		1	
8	(x)	for Phosphorus based	-6		
	(11)	application use 1.0	4		
		= Available Nutrients in			
9		Manure, lbs/ton or	16.2		
		lbs/1000 gal			
		Additional Nutrients	1		
10		needed, lbs/acre (calculated	84		
		above)			
		Available Nutrients in	1/ ~		
11	(/)	Manure, lbs/ton or lbs/1000	16.2		
		gal (calculated above)			
12		= Manure Application	- 1		
12		Rate, tons/acre or 1000	5.1		

5.1 ton/a x 5 a= 26 tens

gal/acre

Category Factor Soil Erosion N. Furrow N. Irrigation Erosion 39 Erosion or even in litt ru sp sil Runoff Class No Olson Soil Test P Commercial No	None (0) None (very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	Medium (2) 5-10 ton/ac/yr QS> for erosion resistant soil Medium spray on clay soils 3-	High (4) 10-15 tons/ac/yr QS> for erodible soils	QA>10 for erodible soils QA>6 for very erodible soils	Risk Value (0,1,2,4,8)	Weight Factor X 1.5	Weight Risk
Factor Soil Erosion N. Furrow N. Irrigation Erosion 39 Erosion 50 Erosion 50 Erosion 50 Erosion 50 Erosion 50 Erosion 50 Erosion 50 Erosion 60 Erosion 70	I/A III fields 0- S slope, all andy fields or field evaluation andicates ttle or no unoff large pray on	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	QS> for erosion resistant soil Medium spray on clay soils 3-	tons/ac/yr QS> for erodible soils	QA>10 for erodible soils QA>6 for very erodible	(X 1.5	
Furrow N, Irrigation Erosion Sprinkler Al Irrigation Sa Erosion Sa or ev in lit ru sp sil Runoff Class No Olson Soil Test P Commercial No	I/A III fields 0- S slope, all andy fields or field evaluation andicates ttle or no unoff large pray on	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	QS> for erosion resistant soil Medium spray on clay soils 3-	tons/ac/yr QS> for erodible soils	erodible soils QA>6 for very erodible	2		1.5
Furrow Ny Irrigation Erosion All Irrigation Sprinkler Irrigation Scann S	I/A III fields 0- S slope, all andy fields or field evaluation andicates ttle or no unoff large pray on	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	QS> for erosion resistant soil Medium spray on clay soils 3-	tons/ac/yr QS> for erodible soils	erodible soils QA>6 for very erodible	2		15
Irrigation Erosion Sprinkler Al Irrigation 39 Erosion or ev in lit ru sp sil Runoff Class No Olson Soil — Test P Commercial No	all fields 0- 1% slope, all andy fields or field avaluation adicates ttle or no unoff large pray on	recovery, QS>6 very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	resistant soil Medium spray on clay soils 3-	QS> for erodible soils	soils QA>6 for very erodible	2	X 1.5	1.3
Irrigation Erosion Sprinkler Al Irrigation 39 Erosion or ev in lit ru sp sil Runoff Class No Olson Soil — Test P Commercial No	all fields 0- 1% slope, all andy fields or field avaluation adicates ttle or no unoff large pray on	recovery, QS>6 very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	resistant soil Medium spray on clay soils 3-	erodible soils	QA>6 for very erodible	て	X 1.5	3
Irrigation Erosion Sprinkler Al Irrigation 39 Erosion or ev in lit ru sp sil Runoff Class No Olson Soil — Test P Commercial No	all fields 0- 1% slope, all andy fields or field avaluation adicates ttle or no unoff large pray on	recovery, QS>6 very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	resistant soil Medium spray on clay soils 3-	erodible soils	very erodible	2	X 1.5	3
Irrigation Erosion Sprinkler Al Irrigation 39 Erosion or ev in lit ru sp sil Runoff Class No Olson Soil — Test P Commercial No	all fields 0- 1% slope, all andy fields or field avaluation adicates ttle or no unoff large pray on	recovery, QS>6 very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	Medium spray on clay soils 3-		,	て		-
Erosion Sprinkler Al Irrigation 39 Erosion sa or ev in lit ru sp sil Runoff Class No Olson Soil — Test P Commercial No	% slope, all andy fields or field evaluation edicates ittle or no unoff large pray on	very erodible soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	Medium spray on clay soils 3-		,		1	- CAR
Sprinkler Al Irrigation 39 Erosion sa or ev in lit ru sp sil Runoff Class No Olson Soil — Test P Commercial No	% slope, all andy fields or field evaluation edicates ittle or no unoff large pray on	soils, or QS>10 other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	on clay soils 3-	Medium			ł	
Irrigation 39 Erosion sal or ev in litt rusp sil Runoff Class No Olson Soil Test P Commercial No	% slope, all andy fields or field evaluation edicates ittle or no unoff large pray on	other soils Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	on clay soils 3-	Medium				
Irrigation 39 Erosion sal or ev in litt rusp sil Runoff Class No Olson Soil Test P Commercial No	% slope, all andy fields or field evaluation edicates ittle or no unoff large pray on	Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8-	on clay soils 3-	Medium				
Irrigation 39 Erosion sal or ev in litt rusp sil Runoff Class No Olson Soil Test P Commercial No	% slope, all andy fields or field evaluation edicates ittle or no unoff large pray on	on silty soils 3- 15% slopes, large spray on silty soils 8-	on clay soils 3-		Low spray		X 1.5	
Erosion sa or ev in litt ru sp sil Runoff Class No Olson Soil Test P Commercial No	andy fields or field evaluation ndicates ettle or no unoff large pray on	15% slopes, large spray on silty soils 8-	'		on clay soils	O	A 1.3	0
or ev in lit ru sp sil Runoff Class No Olson Soil Test P	or field evaluation indicates ittle or no unoff large pray on	large spray on silty soils 8-	. 1777 - 1		-			<u> </u>
evin litt ru sp sil Runoff Class No Olson Soil Test P	valuation ndicates ttle or no unoff large pray on	silty soils 8-	8% slopes, large		>8% slopes			
Runoff Class No Olson Soil Test P Commercial No	ndicates ittle or no unoff large pray on		spray on clay	slope, low				
Runoff Class No Olson Soil Test P Commercial No	ttle or no unoff large pray on		soils >15%	spray on clay				
Runoff Class No Olson Soil — Test P	unoff large pray on	15% slope, low		soil 3-8%				
Runoff Class No Olson Soil — Test P Commercial No	pray on	spray on silt	spray on silt soil	1				
Runoff Class No Olson Soil — Test P Commercial No		soils 3-8%	>15% slope	spray on				
Runoff Class No Olson Soil — Test P Commercial No	ilts 3-8%	large spray on		silty soils				
Olson Soil — Test P Commercial No	2010	clay soil 3-15%		>15% slopes				
Olson Soil — Test P Commercial No		slope					ļ	<u> </u>
Test P Commercial No	legligible	Very Low or	Medium	High	Very High		X 0.5	1.5
Test P Commercial No		Low				`	V O E	
Commercial No		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2_	X 0.5	/
1							<u> </u>	"
D. Cambiliana IA.	lone	Placed with	Incorporated <3	Incorporated	Surface		X 1.0	
P Fertilizer Ap	pplied	Planter or	months prior to	>3 months	applied to			
Application		injection	planting or	before crop	pasture or			
Method		deeper than 2	surface applied	or surface	>3 months			
ļ		inches	during growing	applied <3	before crop			
			season	months	emerges			
		·		before crop		}		
				emerges				
Commercial No	lone	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	(0)	X 1.0	
P Fertilizer Ap	pplied	P205	P205	lbs/ac P205	P205	0		0
Application								
Rate								
Organic P No	lone	Injected	Incorporated <3	Incorporated	Surface		<u> </u>	1
	pplied	-	months prior to	1	applied to	20		2
Application	ppneu	inches	planting or	before crop	pasture or	1	X 1.0	1
Method		menes	surface applied	or surface	>3 months	}		
Method			during growing	applied <3	before crop			
			season	months	emerges			
			30000	before crop.	Cinciges			
0		20 lha/a-	21.00 lbs/ss	91-150	>150 lbs/ac		X 1.0	+
~ 1	lone	<30 lbs/ac	31-90 lbs/ac	lbs/ac P205	P205	4	1	12
1 '	pplied	P205	P205	INS/ dt FZUS	1.203	•	1	(
Application								
Rate					<u> </u>	<u> </u>	<u> </u>	
Distance to >1	1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or	2	X 1.0	2
Concentrate		feet, or			application	1 -		CASS
d Surface		functioning			are directly			
Water Flow		grass	1	1	into			1
		waterways in			concentrate			
		concentrated			d surface			
1		surface water			water flow	1	ı	Ì
-		1		I	1	1	I	1
L			1		areas.			

* *	. •	T 1 . XX7 1 1 .	p-		
Nu	trient	Budget Worksheet 3	5		
		entification: [4] 5 Proton Year	Gruss C	rop: 2014	:
		d Crop Yield:			
		orus index results or Phosphorus	s application from	soil test:	
		of Application:	***************************************		
		rill application occur:			
Nu	trient	Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	125		Msu
2	(-)	Credits from previous legume crops, lbs/ac	0		DE0-9
3	(-)	Residuals from past manure production lbs/acre	41		DE0-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	ð		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	Õ		
6		= Additional Nutrients Needed, lbs/acre	84		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		1-851
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	.6		DEQ-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16-2		
10		Additional Nutrients needed, lbs/acre (calculated above)	84		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	5.2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	5 . 2		

5.2 +/a x 35a = 182 +

Field: Rd		Crop		. Yea	THE RESERVE OF THE PARTY OF THE	The second secon		
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/γr		10-15 tons/ac/yr	QA>10 for erodible soils	1	X 1.5	1-5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	2	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8- 15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3- 8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	soils >8% slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	ĺ	X 0.5	-5
Olson Soil Test P		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	- 5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	٥	X 1.0	0
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	Ů	X 1.0	6
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges	2	X 1.0	2
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

Nutrient Budget Worksheet					
	Field identification: Rd 5 1-5 Year: 2014 Crop: Grass				
	Expected Crop Yield: 5				
	Phosphorus index results or Phosphorus application from soil test: /3-5				
Method of Application: Rear Discharge					
When will application occur: $S_{cf} - O - f$					
Nutrient Budget			Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	125		msie
2	(-)	Credits from previous legume crops, lbs/ac	0		Msu DEQ-9 DEQ-9
3	(-)	Residuals from past manure production lbs/acre	40		DE0-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	88		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		test
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	-6		Dio-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16-2		
10		Additional Nutrients needed, lbs/acre (calculated above)	85		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		,
12		= Manure Application Rate, tons/acre or 1000	5.2		

gal/acre

Appendix A: Phosphorus	Index Worksheet	(Complete for	each field	and crop)

CONTRACTOR DESCRIPTION OF THE PARTY OF THE P	5 2-3	THE RESIDENCE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAME	A DESCRIPTION OF THE PROPERTY	Yea	THE RESIDENCE OF THE PARTY OF T		141-1-1-	100
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	tons/ac/yr	QA> 10 for erodible soils	l	X 1.5	1-5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	2	X 1.5	3
Sprinkler Irrigation Erosion	1	on silty soils 3- 15% slopes, large spray on silty soils 8-	8% slopes, large spray on clay soils >15% slope, medium	Medium spray on clay soils >8% slope, fow spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	O	X 1.5	3
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	1	X 0.5	-5
Olson Soil Test P		<20 ppm	20-40 ppm	40-80 ppm	•	2		(
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	0	X 1.0	8
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges	-7_	X 1.0	-2-
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	w w	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

				;						
		t Budget Worksheet								
Field identification: Rd5 2-30 Year: 2014 Crop: Grass										
		d Crop Yield:								
		orus index results or Phosphoru		soil test: 14						
			Wischerge							
		rill application occur: 378 - Budget	O ct Nitrogen-based	Dhaanhama	Source of					
INU	urieiii	. Duaget	Application	Phosphorus- based Application	information					
1		Crop Nutrient Needs, lbs/acre	125	`	msa					
2	(-)	Credits from previous legume crops, lbs/ac	0		Msa DEa-q DEa-q					
3	(-)	Residuals from past manure production lbs/acre	41		DEQ-9					
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0							
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0							
6		= Additional Nutrients	84							
Ľ.		Needed, lbs/acre	0 1							
		Total Nitrogen and								
7		Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		test					
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	.6		Deg-9					
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16-2	and the second s						
<u> </u>										
10		Additional Nutrients needed, lbs/acre (calculated above)	94							
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2							
	l		 	† · · · · · · · · · · · · · · · · · · ·	1					

5.2 tla x 30 a = 186 t

= Manure Application

Rate, tons/acre or 1000

gal/acre

12

5.2

Field: RLS 3-15 Crop: Grass Year: 2014									
Field	None (0)	Low (1)	Medium (2)	High (4)	Very High	Risk Value	Weight	Weight	
Category					(8)	(0,1,2,4,8)	Factor	Risk	
Factor									
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15	QA>10 for	Ĺ	X 1.5		
				tons/ac/yr	erodible	l		1.5	
					soils				
Furrow	N/A	Tail water	QS> for erosion	QS> for	QA>6 for		X 1.5		
Irrigation	,,,,	recovery, QS>6		erodible soils	very erodible			3	
Erosion		very erodible			soils			- Carrier	
2,03,011		soils, or QS>10							
		other soils							
				N 0 15	Lawaneau		X 1.5		
Sprinkler	All fields 0-	, ,	Medium spray	Medium spray on clay	Low spray	0	1, 1.3	0	
Irrigation	3% slope, all	on silty soils 3-	on clay soils 3-		1				
Erosion	sandy fields	15% slopes,	8% slopes, large		>8% slopes				
	or field		spray on clay	slope, low					
	evaluation	silty soils 8-	soils >15%	spray on clay					
	indicates	15% slope, low		soil 3-8%					
	little or no	spray on silt	spray on silt soil	i		1			
	runoff large	soils 3-8%	>15% slope	spray on					
	spray on	large spray on		silty soils		1			
	silts 3-8%	clay soil 3-15%		>15% slopes					
		slope					ļ	 	
Runoff Class	Negligible	Very Low or	Medium	High	Very High	1	X 0.5	6	
		Low				<u> </u>		.5	
Olson Soil		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	(X 0.5	5	
Test P						`			
Commercial	None	Placed with	Incorporated <3	Incorporated	Surface		X 1.0		
P Fertilizer	Applied	Planter or	months prior to	>3 months	applied to	0		8	
Application		injection	planting or	before crop	pasture or			0	
Method		deeper than 2	surface applied	or surface	>3 months	-			
		inches	during growing	applied <3	before crop				
			season	months	emerges				
				before crop		1			
				emerges	1				
Commercial	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	1	X 1.0		
P Fertilizer	Applied	P205	P205	lbs/ac P205	P205	10		0	
Application	Applica	1 203							
Rate									
			Incorporated <3	Incorporated	Curfaco	 		 	
Organic P	None	Injected	1	1	1			-	
Source	Applied	1	months prior to	before crop	applied to pasture or	12	X 1.0	1 6	
Application		inches	planting or	1	>3 months		1, 1.0		
Method		E-	surface applied	or surface	before crop				
			during growing	applied <3	1				
			season	months	emerges	1			
				before crop.	l		1,10		
Organic P	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	4	X 1.0	4	
Source	Applied	P205	P205	lbs/ac P205	P205	1 /		17	
Application									
Rate									
Distance to	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or		X 1.0	-	
Concentrate		feet, or			application	12		5	
d Surface		functioning			are directly		1	1	
Water Flow		grass		1	into				
		waterways in			concentrate	1			
		concentrated			d surface				
		surface water			water flow				
					areas.				

Nutrient Budget Worksheet			
Field identification: 0 1 5 2 10	Vear 7 avel	Cron: Conse	

Method of Application: Rear Discharge

		of Application: /Cear 12	ischarge		
		rill application occur: Sep	oct	_	
Nu	trient	Budget	Nitrogen-based	Phosphorus-	Source of
			Application	based	information
				Application	
1		Crop Nutrient Needs,	125		Α- 6.4.
<u> </u>		lbs/acre			msa
2	(-)	Credits from previous	0		
		legume crops, lbs/ac	U		DE0-9
3	(-)	Residuals from past manure			
		production lbs/acre	41		D60-9
		Nutrients supplied by			
4	(-)	commercial fertilizer and	0		
<u> </u>	ļ	Biosolids, lbs/acre			
5	(-)	Nutrients supplied in	0		
		irrigation water, lbs/acre			
6		= Additional Nutrients	84		
<u> </u>		Needed, lbs/acre	0 1		
		Total Nitrogen and		A	
7		Phosphorus in manure,	7.3		1257
		lbs/ton or lbs/1000 gal	0		
ļ	ļ	(from manure test)			
		Nutrient Availability factor,			
8	(x)	for Phosphorus based	_ b	a Training Statement of the Statement of	DEQ-9
	ļ	application use 1.0	- r-		
9		= Available Nutrients in			
9		Manure, lbs/ton or	16.2		
		lbs/1000 gal			
		Additional Nutrients			
10		needed, lbs/acre (calculated	001		
10		above)	89		
		Available Nutrients in	<u>, , , , , , , , , , , , , , , , , , , </u>		
11	(/)	Manure, lbs/ton or lbs/1000	1/ >		
11	(7)	gal (calculated above)	16-2		
		= Manure Application		<u> </u>	
12		Rate, tons/acre or 1000	5.2		
ستد		gal/acre	5.2		
L		8	l	L	

Comments:

Field: Rd 5 4-12 Crop: Grass Year: 2014								
Field	None (0)	Low (1)	Medium (2)	High (4)		Risk Value	Weight	Weight
Category					(8)	(0,1,2,4,8)	Factor	Risk
Factor								
Soil Erosion	NA	<5 tons/as/yr			QA>10 for	1	X 1.5	1.5
					erodible	(1.7
					soils			
Furrow	N/A	Tail water	QS> for erosion		QA>6 for		X 1.5	
Irrigation		recovery, QS>6	resistant soil	erodible soils		2		3
Erosion		very erodible			soils			
		soils, or QS>10						
		other soils						
Sprinkler	All fields 0-	Medium spray	Medium spray	Medium	Low spray		X 1.5	
Irrigation	3% slope, all	on silty soils 3-	on clay soils 3-	spray on clay	on clay soils	0		0
Erosion	sandy fields	15% slopes,	8% slopes, large	soils >8%	>8% slopes	 		
Liosion	or field	large spray on	spray on clay	slope, low	•			
	evaluation	silty soils 8-	soils >15%	spray on clay				
	indicates	15% slope, low		soil 3-8%				
	little or no	spray on silt	spray on silt soil					
	runoff large	soils 3-8%	>15% slope	spray on				
	spray on	large spray on	1570 diapo	silty soils				
	silts 3-8%	clay soil 3-15%		>15% slopes				
	3113 3-070	slope		,				
Runoff Class	Negligible	Very Low or	Medium	High	Very High		X 0.5	1
Rulloli Class	Megngible	Low	Micaidin		,	<i>l</i>	1	10-5
Olson Soil		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm		X 0.5	1
Test P		ZO ppi ii	20 40 pp	10 00 pp		2		1
			Incorporated <3	la source roted	Curfaca	 	X 1.0	
Commercial		Placed with					1.0	0
P Fertilizer	Applied	Planter or	months prior to	•	applied to	0		
Application		injection	planting or	before crop	pasture or	1		
Method		deeper than 2	surface applied	or surface	>3 months			
		inches	during growing	applied <3	before crop			
			season	months	emerges		1	
				before crop		1		
				emerges			<u> </u>	ļ
Commercial	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac		X 1.0	
P Fertilizer	Applied	P205	P205	lbs/ac P205	P205	0	1	0
Application						1		
Rate					1			
Organic P	None	Injected	Incorporated <3	Incorporated	Surface			
Source	Applied		months prior to	1	applied to	1 0		- 2
Application	, ,,,,,	inches	planting or	before crop	pasture or	1	X 1.0	C
Method			surface applied	or surface	>3 months			
Method			during growing	applied <3	before crop	1		
			season	months	emerges	1		
				before crop.				
Organia D	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac		X 1.0	
Organic P	1	P205	P205	lbs/ac P205	P205	11		U
Source	Applied	203	. 203	1		1		7
Application						1		
Rate			1.00.555	1005	0 60 - 2	 	X 1.0	+
Distance to	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or		V 1.0	
Concentrate		feet, or			application	12	1	Z
d Surface		functioning			are directly			l
Water Flow		grass			into			
		waterways in			concentrate	1		
		concentrated			d surface			
		surface water			water flow			
		1			areas.			
	3					CONTRACTOR OF THE PROPERTY OF	CONTRACTOR OF THE PERSON NAMED IN COLUMN 1997	THE RESERVE OF THE PERSONS ASSESSED.

Nutrient Budget Worksheet

Field identification: RUS 4-12 Year: 2014	Crop: Gress	:
Expected Crop Yield:		
Phosphorus index results or Phosphorus application	from soil test:	
Method of Application:		

W	nen w	ill application occur:			
Nu	trient	Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	125		msce
2	(-)	Credits from previous legume crops, lbs/ac	0		DEA-9
3	(-)	Residuals from past manure production lbs/acre	41		DEQ-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	84		
ļ			18.00		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		test
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	-k		De0-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	84		
10		Additional Nutrients needed, lbs/acre (calculated above)	84		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	5.2		

Field: Rd5-5-24 Crop: Grass Year: 2014								
Field	None (0)	Low (1)	Medium (2)	High (4)	Very High	Risk Value	Weight	Weight
Category					(8)	(0,1,2,4,8)	Factor	Risk
Factor								
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15	QA>10 for	5	X 1.5	
				tons/ac/yr	erodible			1.5
					soils			
Furrow	N/A	Tail water	QS> for erosion	QS> for	QA>6 for		X 1.5	
Irrigation		recovery, QS>6	resistant soil	erodible soils	very erodible	~~		3
Erosion		very erodible			soils	-		
		soils, or QS>10						
		other soils						
Sprinkler	All fields 0-	Medium spray	Medium spray	Medium	Low spray		X 1.5	_
Irrigation	3% slope, all	on silty soils 3-	on clay soils 3-	spray on clay	on clay soils	G		0
Erosion	sandy fields	15% slopes,	8% slopes, large	soils >8%	>8% slopes			
	or field	large spray on	spray on clay	slope, low				
	evaluation	silty soils 8-	soils >15%	spray on clay			}	
	indicates	15% slope, low	slope, medium	soil 3-8%				
	little or no	spray on silt	spray on silt soil	slope, low			1	
	runoff large	soils 3-8%	>15% slope	spray on		1		
	spray on	large spray on		silty soils				
	silts 3-8%	clay soil 3-15%		>15% slopes				
-		slope				ļ		
Runoff Class	Negligible	Very Low or	Medium	High	Very High	1	X 0.5	-5
		Low					X 0.5	+
Olson Soil		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	į	X 0.5	-5
Test P								-3
Commercial	None	Placed with	i .	Incorporated	í		X 1.0	
P Fertilizer	Applied	Planter or	months prior to	>3 months	applied to	0		10
Application		injection	planting or	before crop	pasture or			
Method		deeper than 2	surface applied	or surface	>3 months			
		inches	during growing	applied <3	before crop			
			season	months	emerges			
				before crop			1	
				emerges		ļ		
Commercial	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	1	X 1.0	
P Fertilizer	Applied	P205	P205	lbs/ac P205	P205	0		2
Application								
Rate						<u> </u>		
Organic P	None	Injected	Incorporated <3	1	Surface			
Source	Applied	deeper than 2	months prior to		applied to			- 2
Application		inches	planting or	before crop	pasture or	7	X 1.0	-
Method			surface applied	or surface	>3 months	100		
			during growing	applied <3	before crop			
			season	months	emerges			
				before crop.				
Organic P	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac		X 1.0	1
Source	Applied	P205	P205	lbs/ac P205	P205	6		14
Application						'		'
Rate				1				
Distance to	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or		X 1.0	
Concentrate		feet, or			application	1 _		2
d Surface		functioning			are directly	1 2		Kouron
Water Flow		grass			into	1		1
		waterways in			concentrate			
		concentrated			d surface			
		surface water			water flow	1		
					areas.			1
1								

Ni	itrien	t Budget Worksheet											
		entification: RUS S-24 Year	r. acida C	rop: Grass	>								
	Expected Crop Yield:												
		orus index results or Phosphoru	s application from	soil test: /3.									
-	Method of Application: Rear Discharge												
			Discharge										
	When will application occur: Ser - Oe Nutrient Budget Nitrogen-based Phosphorus- Source of												
		t Duuget	Application	based Application	information								
1		Crop Nutrient Needs, lbs/acre	125		Msa								
2	(-)	Credits from previous legume crops, lbs/ac	6		MSU. DEQ-9 DEG-9								
3	(-)	Residuals from past manure production lbs/acre	41		DEG-9								
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0										
5	(-)	Nutrients supplied in irrigation water, lbs/acre	Ó										
6		= Additional Nutrients Needed, lbs/acre	84										
		Total Nitrogen and											
7		Phosphorus in manure,											
		lbs/ton or lbs/1000 gal	27		test								
ļ	 	(from manure test)											
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	k		DE6-9								
	 	= Available Nutrients in											
9		Manure, lbs/ton or	16.2										
		lbs/1000 gal											
		Additional Nutrients	6.00										
10		needed, lbs/acre (calculated	84										
		above)	-										
11	()	Available Nutrients in Manure, lbs/ton or lbs/1000	16 ~										
11	(/)	gal (calculated above)	16.2										
		= Manure Application	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~										
12		Rate, tons/acre or 1000	5.2										
		gal/acre	0.2										

S-2 +/a x 24a = 1 25 tone

Field: 2d	56-13	S Crop	: Grass	Yea				
Field	None (0)	Low (1)	Medium (2)	High (4)	Very High	Risk Value	Weight	Weigh
Category					(8)	(0,1,2,4,8)	Factor	Risk
Factor								The same of the sa
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15	QA>10 for	,	X 1.5	i pom.
				tons/ac/yr	erodible	1		1.5
					soils			
Furrow	N/A	Tail water	QS> for erosion	QS> for	QA>6 for		X 1.5	
Irrigation		recovery, QS>6	resistant soil	erodible soils	very erodible	2		13
Erosion		very erodible			soils			
		soils, or QS>10						
		other soils						
Sprinkler	All fields 0-		Medium spray	Medium	Low spray	<u>ن</u>	X 1.5	0
Irrigation	3% slope, all	l *	on clay soils 3-	spray on clay	on clay soils			
Erosion	sandy fields	15% slopes,	8% slopes, large		>8% slopes			
	or field	large spray on	spray on clay	slope, low				
	evaluation	silty soils 8-	soils >15%	spray on clay				
	indicates		slope, medium	soil 3-8%			1	
	little or no	spray on silt	spray on silt soil					
	runoff large	soils 3-8%	>15% slope	spray on silty soils				
	spray on	large spray on		>15% slopes				
	silts 3-8%	clay soil 3-15%		>13/9 310bea			1	
Runoff Class	Negligible	slope Very Low or	Medium	High	Very High	 	X 0.5	D. 0.
Runon Class	Megiigibie	Low	liviculuii		1	l		0.5
Olson Soil		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	12_	X 0.5	1
Test P		20 pp				Commercial Commercial		1
Commercial	None	Placed with	Incorporated <3	Incorporated	Surface	<u> </u>	X 1.0	
P Fertilizer	Applied	Planter or	months prior to		applied to	0	1	
Application	Applied	injection	planting or	before crop	pasture or			0
Method		deeper than 2	surface applied	or surface	>3 months			
		inches	during growing	applied <3	before crop		1	l
			season	months	emerges			
				before crop				1
				emerges				
Commercial	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac		X 1.0	
P Fertilizer	Applied	P205	P205	lbs/ac P205	P205	0		
Application				l				0
Rate								
Organic P	None	Injected	Incorporated <3	Incorporated	Surface			
Source	Applied	deeper than 2	months prior to	>3 months	applied to	1		ーつ
Application		inches	planting or	before crop	pasture or	2	X 1.0	_
Method			surface applied	or surface	>3 months	-		
			during growing	applied <3	before crop	l		
			season	months	emerges			
				before crop.	<u> </u>	-	1	
Organic P	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac] i	X 1.0	
Source	Applied	P205	P205	lbs/ac P205	P205	101		14
Application								'
Rate				ļ	<u> </u>		1	
Distance to	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or		X 1.0	
Concentrate		feet, or			application	1 2		12
d Surface		functioning			are directly			
Water Flow		grass			into			
		waterways in			concentrate		1	
		concentrated			d surface			
		surface water			water flow areas.	1		
					ai cos.			

Nı	itrien	t Budget Worksheet			
		entification: Pd 5613 Year	r. 2014 C	crop: Grass	·
·		ed Crop Yield: 5 +	·		
		orus index results or Phosphoru		soil test: 14	
-		of Application: Rear	Discharge	**************************************	
		rill application occur: 5 ce	-oct	4	
Nu	trien	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	125		Msu
2	(-)	Credits from previous legume crops, lbs/ac	0		MSU DEO-9 DEO-9
3	(-)	Residuals from past manure production lbs/acre	53		DEQ-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	Õ		
6		= Additional Nutrients Needed, lbs/acre	72		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		t-s+
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	- b		DE0-9
9	H-700CSN-200	= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16-2		A
10		Additional Nutrients needed, lbs/acre (calculated above)	72		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	16-2 4-4		

4.4 Hax 13 ac: 57.2 +

Field: Rul	5 7-18	Crop	: Grass	Yea				a recommendation of the second
Field	None (0)	Low (1)	Medium (2)	High (4)	Very High	Risk Value	Weight	Weight
Category					(8)	(0,1,2,4,8)	Factor	Risk
Factor								
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15	QA>10 for	1	X 1.5	1-5
				tons/ac/yr	erodible	1		1-3
					soils			
Furrow	N/A	Tail water	QS> for erosion	QS> for	QA>6 for	_	X 1.5	*****
Irrigation		recovery, QS>6	resistant soil	erodible soils		2		3
Erosion		very erodible			soils			
		soils, or QS>10						
		other soils						ļ
Sprinkler	All fields 0-	Medium spray	Medium spray	Medium	Low spray		X 1.5	8
Irrigation	3% slope, all	on silty soils 3-	on clay soils 3-	spray on clay	on clay soils	0		
Erosion	sandy fields	15% slopes,	8% slopes, large	soils >8%	>8% slopes			
	or field	large spray on	spray on clay	slope, low	*			
	evaluation	silty soils 8-	soils >15%	spray on clay				l
	indicates	15% slope, low		soil 3-8%		İ		
	little or no	spray on silt	spray on silt soil	slope, low				
	runoff large	soils 3-8%	>15% slope	spray on				
	spray on	large spray on		silty soils				
	silts 3-8%	clay soil 3-15%		>15% slopes		1		
		slope						
Runoff Class	Negligible	Very Low or	Medium	High	Very High	1	X 0.5	-5
		Low		10.00			X 0.5	1
Olson Soil		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	A 0.3	- 5
Test P						<u>'</u>	V 1 0	
Commercial		Placed with	Incorporated <3	•	Surface		X 1.0	
	Applied	Planter or	months prior to	1	applied to	0		0
Application		injection	planting or	before crop	pasture or			
Method		deeper than 2	surface applied	or surface	>3 months			
		inches	during growing	applied <3 months	before crop	1		
			season	1	emerges			
				before crop				
			24 22 11 1	emerges	>150 lbs/ac	<u> </u>	X 1.0	
		<30 lbs/ac	31-90 lbs/ac	91-150	P205		1.0	-
P Fertilizer	Applied	P205	P205	lbs/ac P205	P203	0		5
Application								
Rate								
Organic P	None	Injected	Incorporated <3					
	Applied		months prior to	1	applied to pasture or	-	X 1.0	- 2
Application		inches	planting or	before crop or surface	>3 months	<u></u>	7 1.0	
Method			surface applied	applied <3	before crop			
			during growing	months	emerges			
			season	before crop.	emerges			
	**	-20 lbs /==	31-90 lbs/ac	91-150	>150 lbs/ac	-	X 1.0	
Organic P	None	<30 lbs/ac	31-90 lbs/ac	lbs/ac P205	P205	1	1	11
1	Applied	P205	1 203	103/001203	200	1 2		17
Application							ĺ	1
Rate		000 4 500	400 200 5	4100 f	O foot or		X 1.0	
i	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or		1, 1.0	-
Concentrate		feet, or			application are directly	12	1	12
d Surface		functioning			into			
Water Flow		grass			concentrate	.		
		waterways in			d surface			
ļ		concentrated			water flow			
		surface water			areas.			
		1	1	1	1	1	1	1
			-5					

Nutrient	Budget	Worksheet	
			

		antification:		man ()	:
				rop: Grass	
	<u> </u>	d Crop Yield: \$5 40	<u> </u>	*1	
-		orus index results or Phosphorus		soil test: 13	5
		of Application: Reav	Dischonge		
		vill application occur: $ς_{κρ}$	Nitrogen-based	Т	T -
Nu	trient	Budget	Nitrogen-based	Phosphorus-	Source of
			Application	based	information
<u> </u>				Application	
1		Crop Nutrient Needs,	125		Msie
	ļ	lbs/acre	(5 3		1134
2	(-)	Credits from previous			
<u> </u>		legume crops, lbs/ac			DE0-9
3	(-)	Residuals from past manure	53		DE0-9 DE0-9
<u> </u>		production lbs/acre	00		DE0-9
		Nutrients supplied by			
4	(-)	commercial fertilizer and	0		
<u> </u>	ļ	Biosolids, lbs/acre			
5	(-)	Nutrients supplied in	0		
	'	irrigation water, lbs/acre			
6		= Additional Nutrients	72		
Ľ.		Needed, lbs/acre	16		
ļ		m 1311			
		Total Nitrogen and			
7		Phosphorus in manure,	21		1-87
		lbs/ton or lbs/1000 gal			1 7 5 /
<u> </u>		(from manure test)			
0	(4)	Nutrient Availability factor,	(
8	(x)	for Phosphorus based	.6		DE0-9
	ļ	application use 1.0			
0		= Available Nutrients in	11 3		1 A
9		Manure, lbs/ton or	16.2		4
		lbs/1000 gal			
		Additional Nutricets			
10		Additional Nutrients	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
10		needed, lbs/acre (calculated	72		
		above) Available Nutrients in			
11	(1)		17 7		
11	(/)	Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
		= Manure Application			
12		Rate, tons/acre or 1000	4.4		
12		gal/acre	1-1		
		ganacic		L	<u></u>

AND DESCRIPTION OF THE PARTY OF	CANCEL CONTROL OF THE PARTY OF	ess S&Crop		Yea			Mojebe	101-2-1-4
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr		10-15 tons/ac/yr	QA> 10 for erodible soils	-	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils		QS> for erodible soils	QA>6 for very erodible soils	7	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3- 15% slopes, large spray on silty soils 8- 15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	0	X 1.5	ð
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	1	X 0.5	-5
Olson Soil Test P	man, timp at time 10 45	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm		X 0.5	(
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	0	X 1.0	8
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges		X 1.0	
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	Ц	X 1.0	9
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	7	X 1.0	2

Nu	trient	t Budget Worksheet			
		entification: URN Osies Year	: 2004 C	Crop: Gress	:
		d Crop Yield:			
		orus index results or Phosphorus	s application from	soil test:	
		of Application:			
WI	ien w	rill application occur:			
Nu	trient	Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	125		msa
2	(-)	Credits from previous legume crops, lbs/ac	0		Dea-9
3	(-)	Residuals from past manure production lbs/acre	41		Msu DEQ-9 DEQ-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	ð		,
5	(-)	Nutrients supplied in irrigation water, lbs/acre	Õ		
6		= Additional Nutrients Needed, lbs/acre	84		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		test
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	.6		DE0-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16.2		
				1	
10		Additional Nutrients needed, lbs/acre (calculated above)	84		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16.2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	5.2		

5.2 Hax 58 ac > 302 tous

Field: 🎶 🤾	N Jef	F's Nº Erop		CONTRACTOR OF THE PROPERTY OF	a to this is the property of the party of th	CONTRACTOR DESCRIPTION OF THE PROPERTY OF THE		
Field	None (0)	Low (1)	Medium (2)	High (4)	Very High	Risk Value	Weight	Weight
Category					(8)	(0,1,2,4,8)	Factor	Risk
Factor								-
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15	QA> 10 for	j	X 1.5	15
				tons/ac/yr	erodible	(1.5
					soils			
Furrow	N/A	Tail water	QS> for erosion	QS> for	QA>6 for	2	X 1.5	
Irrigation		recovery, QS>6	resistant soil	erodible soils	very erodible	Eser-		5
Erosion		very erodible			soils			
		soils, or QS>10						
		other soils	·					
Sprinkler	All fields 0-	Medium spray	Medium spray	Medium	Low spray		X 1.5	
Irrigation		on silty soils 3-	on clay soils 3-	spray on clay	on clay soils	0		0
Erosion	sandy fields	15% slopes,	8% slopes, large	soils >8%	>8% slopes		1	
	or field	• •	spray on clay	slope, low				
	evaluation	silty soils 8-	soils >15%	spray on clay				
	indicates	15% slope, low	slope, medium	soil 3-8%				
	little or no	spray on silt	spray on silt soil	slope, low				
	runoff large	soils 3-8%	>15% slope	spray on		İ		
	spray on	large spray on	•	silty soils				.]
	silts 3-8%	clay soil 3-15%		>15% slopes				
		slope		•				
Runoff Class	Negligible	Very Low or	Medium	High	Very High	1 7	X 0.5	
Turior Cicas		Low				1		25
Olson Soil		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	A	X 0.5	,
Test P		·		, .		2		/
Commercial	None	Placed with	Incorporated <3	Incorporated	Surface		X 1.0	1
P Fertilizer	Applied	Planter or	months prior to	{	applied to			
Application	Арриец	injection	planting or	before crop	pasture or	0	1	0
Method		deeper than 2	surface applied	or surface	>3 months			
Meniou		inches	during growing	applied <3	before crop	1		
		menes	season	months	emerges		1	
			3000	before crop				
				emerges				
	Na	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	 	X 1.0	
Commercial		· -	P205	lbs/ac P205	P205		1	
P Fertilizer	Applied	P205	P203	103/80 1203	1 203	0		0
Application							l	-
Rate				ļ	<u> </u>	 	 	
Organic P	None	Injected	Incorporated <3	1	1		1	
Source	Applied	1 .	months prior to	1	applied to	4.403	X 1.0	17
Application		inches	planting or	before crop	pasture or	12	X 1.0	Com-
Method			surface applied	or surface	>3 months			
			during growing	applied <3	before crop	-		
			season	months	emerges			
			ļ	before crop.	450 " /		- V10	
Organic P	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	, ,	X 1.0	
	Applied	P205	P205	lbs/ac P205	P205	14		14
Application			}		1			'
Rate					<u> </u>			
Distance to	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or		X 1.0	
Concentrate		feet, or			application	-		-,,
d Surface		functioning	1		are directly	4		1
Water Flow		grass			into			
		waterways in			concentrate			1
		concentrated			d surface	1		
		surface water			water flow			
		I	1	1	areas.	1	1	1
		1	1	1	1	1	1	

		t Budget Worksheet Jef	7's N4 \$ 26		
		entification:UR Werth Year	" zoid C	rop: Gress	:
		ed Crop Yield:			
		orus index results or Phosphorus			4
		of Application: Recover	Discharge	6	
		vill application occur: Sep	-Oct	1	y
Nu	trient	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	125		msa
2	(-)	Credits from previous legume crops, lbs/ac	0		MSU DEQ-9 DEQ-9
3	(-)	Residuals from past manure production lbs/acre	35		DEQ-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	Ó		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	0		
6		= Additional Nutrients Needed, lbs/acre	90		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		test
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	- 60		DE0-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16-2		
10		Additional Nutrients needed, lbs/acre (calculated above)	90		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	16-Z 5.6		

5.6 + la v 26 a = 146 +

	2 NO TIFA	dle-19 crop	E Gras		THE REPORT OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED	THE REAL PROPERTY.		
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weigh Risk
Soil Erosion	NA	<5 tons/as/уг	5-10 ton/ac/yr	10-15 tons/ac/yr	QA>10 for erodible soils	1.5	X 1.5	1-5
Furrow Irrigation Erosion	N/A	Tail water recovery, Q\$>6 very erodible soils, or Q\$>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	2	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	15% slopes, large spray on silty soils 8-	8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	0	X 1.5	3
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	l	X 0.5	-5
Olson Soil Test P		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2_	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	0	X 1.0	0
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	O	X 1.0	3
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges	7	X 1.0	2_
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

SAVING SAVING SAVING					
N	ıtrien	t Budget Worksheet			
Fi	eld id	t Budget Worksheet entification: URNM idolle Year	r: 2014 C	Crop: Grass	:
Ex	pecte	ed Crop Yield: \$			
Ph	osph	orus index results or Phosphoru	s application from	soil test: /੫	
		of Application: Rear 1	Discharge		
W	hen v	vill application occur: Sea.	-oct		
Nı	ıtrien	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information
1	-	Crop Nutrient Needs, lbs/acre	125		Msu
2	(-)	Credits from previous legume crops, lbs/ac	0		060-9
3	(-)	Residuals from past manure production lbs/acre	61		DEQ-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, Ibs/acre	0		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	Õ		
6		= Additional Nutrients Needed, lbs/acre	64		
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	27		Test
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	-6		DE6-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16.2		
				a de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	100
10		Additional Nutrients needed, lbs/acre (calculated above)	64		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	Ч		

4 t/a x 19a = 71 tous

Field: 🧔	R. Hirse	-9 Crop	THE RESERVE THE PROPERTY OF THE PARTY OF THE	Yea	TO THE PARTY AND ADDRESS OF THE PARTY AND ADDR	AND THE RESIDENCE OF THE PARTY		
Field Category	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Factor Soil Erosion	NA	<5 tons/as/γr		10-15 tons/ac/yr	QA> 10 for erodible soils	(X 1.5	1-5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	~	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	on silty soils 3- 15% slopes,	Medium spray on clay soils 3- 8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	O	X 1.5	<u></u> 8
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	l	X 0.5	.5
Olson Soil Test P		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	-1	X 0.5	- S
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	•	Surface applied to pasture or >3 months before crop emerges	\mathcal{O}	X 1.0	8
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges	7	X 1.0	2
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	i	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2
Total Phosp	horus Index	Value:	3.5					

STATE CONTRACTOR					
Nı	ıtrien	t Budget Worksheet			
Fi	eld id	lentification: Horse - 9 Yea	r: 2014 C	Crop: Give 55	:
		ed Crop Yield: 5 +			
Ph	osph	orus index results or Phosphoru	s application from	soil test: /3	,5
M	ethod	of Application:	Discharge		
W	hen v	vill application occur: $S_{e\rho}$	-oct		
Nu	ıtrien	t Budget	Nitrogen-based	Phosphorus-	Source of
			Application	based	information
<u> </u>				Application	,
1		Crop Nutrient Needs,	125		Msu
_		lbs/acre	1 - 0		177300
2	(-)	Credits from previous	0		5000
<u> </u>	 `	legume crops, lbs/ac			INCA 9
3	(-)	Residuals from past manure	41		DEQ-9
	 `	production lbs/acre			DCG 1
		Nutrients supplied by			
4	(-)	commercial fertilizer and	0		
	 	Biosolids, lbs/acre			
5	(-)	Nutrients supplied in	$\mid \rangle$		
<u> </u>	 	irrigation water, lbs/acre = Additional Nutrients			
6		Needed, lbs/acre	84		
	865 20	Needed, ibs/acre			
	1868	Total Nitrogen and		lest 1979	
		Phosphorus in manure,			
7		lbs/ton or lbs/1000 gal	27		TesT
		(from manure test)			1 = > 1
	 	Nutrient Availability factor,	***************************************		
8	(x)	for Phosphorus based	-6		
-		application use 1.0	- 6		DE0-9
***************************************	 	= Available Nutrients in			
9		Manure, lbs/ton or	16.2		
		lbs/1000 gal			
		Additional Nutrients			
10		needed, lbs/acre (calculated	84		
		above)	0 1		
		Available Nutrients in			- Consugarion
11	(/)	Manure, lbs/ton or lbs/1000	16.2		
		gal (calculated above)			
		= Manure Application	gast		
12		Rate, tons/acre or 1000	5.2		
į		gal/acre		I	1

5.2 +lax 9 a = 47 +

Appendîx A: Phosphorus Index	 Worksheet (Complete for each field and cro 	p)

		75- 22 Crop): (gvuss	Yea	CONTRACTOR OF THE PROPERTY OF	Risk Value	Weight	Weigh
Field	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	(0,1,2,4,8)	Factor	Risk
Category					(0)	(0,1,2,3,0)	· acco.	Mean
Factor Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15	QA>10 for	1	X 1.5	1
				tons/ac/yr	erodible soils			1-5
Furrow	N/A	Tail water	QS> for erosion	QS> for	QA>6 for		X 1.5	3
Irrigation		recovery, QS>6	resistant soil	erodible soils	very erodible	7		
Erosion		very erodible			soils			
		soils, or QS>10						
		other soils		••			X 1.5	
Sprinkler	All fields 0-	Medium spray	Medium spray	Medium	Low spray on clay soils	0	V 1.2	10
Irrigation	3% slope, all	on silty soils 3-	on clay soils 3- 8% slopes, large	spray on clay	>8% slopes			<u> </u>
Erosion	sandy fields	15% slopes, large spray on	spray on clay	slope, low	2070 310pc3			
	or field evaluation	silty soils 8-	soils >15%	spray on clay				
	indicates	15% slope, low		soil 3-8%				
	little or no	spray on silt	spray on silt soil	slope, low				
	runoff large	soils 3-8%	>15% slope	spray on				
	spray on	large spray on		silty soils				
	silts 3-8%	clay soil 3-15%		>15% slopes				
		slope		1 47t.	Very High		X 0.5	ļ
Runoff Class	Negligible	Very Low or Low	Medium	High		(1.5
Olson Soil Test P		<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial	None	Placed with	Incorporated <3		Surface	1	X 1.0	1
P Fertilizer	Applied	Planter or	months prior to	1	applied to	0		0
Application		injection	planting or	before crop	pasture or	İ		
Method		deeper than 2	surface applied	or surface	>3 months before crop			
		inches	during growing season	applied <3 months	emerges			
			Season	before crop	Cincigeo			
				emerges			1 .	
Commercial	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac		X 1.0	
	Applied	P205	P205	lbs/ac P205	P205	0		0
Application	• •							
Rate								
Organic P	None	Injected	Incorporated <3	Incorporated	Surface			
	Applied	deeper than 2	months prior to		applied to		W 5 5	-
Application		inches	planting or	before crop	pasture or	2	X 1.0	1
Method			surface applied	or surface	>3 months before crop			
			during growing	applied <3 months	emerges			
			season	before crop.	emerges			
Organic n	None	<30 lbs/ac	31-90 lbs/ac	91-150	>150 lbs/ac	1	X 1.0	T
	None Applied	P205	P205	lbs/ac P205	P205	1		1
Application	p.p.1000					17		19
Rate							1	
	>1,000 feet	200-1,000	100-200 feet	<100 feet	0 feet or		X 1.0	
Concentrate	_,	feet, or			application	1 7	1	-
d Surface		functioning			are directly	1		12
Water Flow		grass			into			
		waterways in			concentrate			l
		concentrated	1		d surface			1
		surface water			water flow areas.			l
1								

Nu	Nutrient Budget Worksheet 22						
	Field identification: Homer Davis Year: 2014 Crop: Grass						
	Expected Crop Yield: & +						
	Phosphorus index results or Phosphorus application from soil test: 13.5						
		of Application: Rew 1.	Discharge Oct				
		vill application occur: 5 cg	-Oct		I		
Nu	itrient	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information		
1		Crop Nutrient Needs, lbs/acre	125		Msu		
2	(-)	Credits from previous legume crops, lbs/ac	ð		060-9		
3	(-)	Residuals from past manure production lbs/acre	39		DEQ-9		
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, Ibs/acre	ð				
5	(-)	Nutrients supplied in irrigation water, lbs/acre	9	Market Model annaise a beats executive 27 model on the			
6		= Additional Nutrients Needed, lbs/acre	86				
7		Total Nitrogen and Phosphorus in manure, Ibs/ton or Ibs/1000 gal (from manure test)	27		Test		
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	-6		DE0-9		
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16.2				
10		Additional Nutrients needed, lbs/acre (calculated above)	86				
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16.2				
12		= Manure Application Rate, tons/acre or 1000 gal/acre	5.3				

5.3 + /ac x 22a = 1/7 tens

Annendêx A: Phosphorus I	ndex Worksheet	(Complete for each field and cr	op)

Field: 110	her becars	N 18 Crop	: Grass	THE RESERVE THE PROPERTY OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLU	ar: 20	Risk Value	Weight	Weigh
Field	None (0)	Low (1)	Medium (2)	High (4)	Very High		Factor	Risk
Category				4.3	(8)	(0,1,2,4,8)	racioi	1,41232
Factor Soil Erosion	NA	<5 tons/as/yr	0 20 10,7,00,7.	10-15 tons/ac/yr	QA>10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	2	X 1.5	3
Sprinkler Irrigation Erosion	All fields 0- 3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	on silty soils 3- 15% slopes, large spray on silty soils 8-	Medium spray on clay soils 3- 8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	slope, low spray on clay soil 3-8%	Low spray on clay soils >8% slopes	O.	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	1	X 0.5	- S
Olson Soil Test P	Fig. 1. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	-5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season		Surface applied to pasture or >3 months before crop emerges	0	X 1.0	6
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	0	X 1.0	0
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	I	Surface applied to pasture or >3 months before crop emerges	2	X 1.0	7
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrate d Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	O feet or application are directly into concentrate d surface water flow areas.	2	X 1.0	2

Nu	ıtrien	t Budget Worksheet W-1	8					
Fie	Field identification: Hover Dawis Year: 2011 Crop: Gras 5							
	Expected Crop Yield: 5 +0~5							
Ph	Phosphorus index results or Phosphorus application from soil test: 13.5							
Me	Method of Application: Pear Discharge							
W	hen v	vill application occur: Sce	-oct					
Nu	itrien	t Budget	Nitrogen-based Application	Phosphorus- based Application	Source of information			
1		Crop Nutrient Needs, lbs/acre	125		Msu			
2	(-)	Credits from previous legume crops, lbs/ac	0		DE0-9			
3	(-)	Residuals from past manure production lbs/acre	42		DEQ-9			
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	0					
5	(-)	Nutrients supplied in irrigation water, lbs/acre	9					
6		= Additional Nutrients	83					
<u> </u>	7500000000	Needed, lbs/acre	15					
L								
7		Total Nitrogen and Phosphorus in manure, Ibs/ton or Ibs/1000 gal (from manure test)	27		Test			
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	-6		DE0-9			
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16.2					
10		Additional Nutrients needed, lbs/acre (calculated above)	83					
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2					
12		= Manure Application Rate, tons/acre or 1000 gal/acre	5.1					

S.1. +/a x 18 a = 92 +

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop) Barn-26 Crop: Grass Year: 2014 Risk Value Weight Weight High (4) Very High Field Low (1) Medium (2) None (0) Risk Factor (8) (0,1,2,4,8)Category **Factor** X 1.5 10-15 QA>10 for 5-10 ton/ac/yr Soil Erosion NA <5 tons/as/yr -5 erodible tons/ac/yr soils X 1.5 QS> for erosion QS> for QA>6 for Tail water N/A Furrow 3 20 erodible soils very erodible resistant soil recovery, QS>6 Irrigation soils very erodible Erosion soils, or QS>10 other soils X 1.5 Medium Low spray All fields 0-Medium spray Medium spray Sprinkler 0 \bigcirc on clay soils spray on clay 3% slope, all on silty soils 3on clay soils 3-Irrigation >8% slopes soils >8% 15% slopes, 8% slopes, large sandy fields Erosion slope, low or field large spray on spray on clay evaluation silty soils 8soils >15% spray on clay soil 3-8% indicates 15% slope, low slope, medium spray on silt soil slope, low little or no spray on silt soils 3-8% >15% slope spray on runoff large silty soils spray on large spray on >15% slopes clay soil 3-15% silts 3-8% slope Very High X 0.5 High Medium کی Very Low or Runoff Class Negligible Low X 0.5 20-40 ppm 40-80 ppm >80 ppm Olson Soil <20 ppm 2 Test P X 1.0 Placed with Incorporated <3 Incorporated Surface Commercial None >3 months applied to Planter or months prior to Ò P Fertilizer Applied 0 before crop pasture or injection planting or Application deeper than 2 surface applied or surface >3 months Method applied <3 before crop inches during growing months emerges season before crop emerges X 1.0 91-150 >150 lbs/ac Commercial <30 lbs/ac 31-90 lbs/ac P205 lbs/ac P205 P205 P Fertilizer Applied P205 \bigcirc 0 Application Rate Surface Incorporated <3 Incorporated Organic P None Injected months prior to >3 months applied to deeper than 2 Source Applied X 1.0 before crop pasture or planting or inches Application Z surface applied or surface >3 months Method applied <3 before crop during growing months emerges season before crop. 91-150 >150 lbs/ac X 1.0 31-90 lbs/ac <30 lbs/ac Organic P None P205 lbs/ac P205 P205 P205 Applied Source Application Rate X 1.0 100-200 feet <100 feet 0 feet or 200-1.000 >1,000 feet Distance to application feet, or Concentrate 2 are directly functioning d Surface into grass Water Flow concentrate waterways in d surface concentrated water flow surface water areas.

14

Total Phosphorus Index Value:

NI.	itrion	t Budget Worksheet 2.6			
_		t Budget Worksheet 26 entification: IP N Burn Year		ron:	:
		ed Crop Yield:	· Gazary	aup. Grass	
		orus index results or Phosphorus	application from	soil test: /뇌	
-					
		vill application occur: SEP	Discharge Oct	6	
		t Budget	Nitrogen-based	Phosphorus-	Source of
INU	ili iciii	i Duugoi	Application	based Application	information
1		Crop Nutrient Needs, lbs/acre	125		Msu
2	(-)	Credits from previous legume crops, lbs/ac	Ò		060-9
3	(-)	Residuals from past manure production lbs/acre	38		DEQ-9
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	D		
5	(-)	Nutrients supplied in irrigation water, lbs/acre	D D		
6		= Additional Nutrients	87		
		Needed, lbs/acre	0 /		
7	,	Total Nitrogen and Phosphorus in manure, Ibs/ton or Ibs/1000 gal (from manure test)	27		1857
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	-6		DE0-9
9		= Available Nutrients in Manure, lbs/ton or lbs/1000 gal	16.2		
10		Additional Nutrients needed, lbs/acre (calculated above)	87		
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	16-2		
12		= Manure Application Rate, tons/acre or 1000 gal/acre	5.4		

5.4 Hax 26 a = 140 tons

Section F - CERTIFICATION

Permittee Information: This form must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA]

A. Name (Type or Print) Ry ber + Cox k	
B. Title (Type or Print) Greneral Manager	C. Phone No. フィ ら ー ム イ ィ フ
D. Signature Olive Colive E. Date Signed	

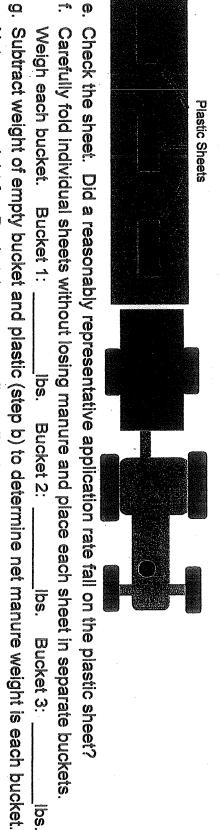
The Department will not process this form until all of the requested information is supplied, and the appropriate fees are paid. Return this form and the applicable fee to:

Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620-0901
(406) 444-3080

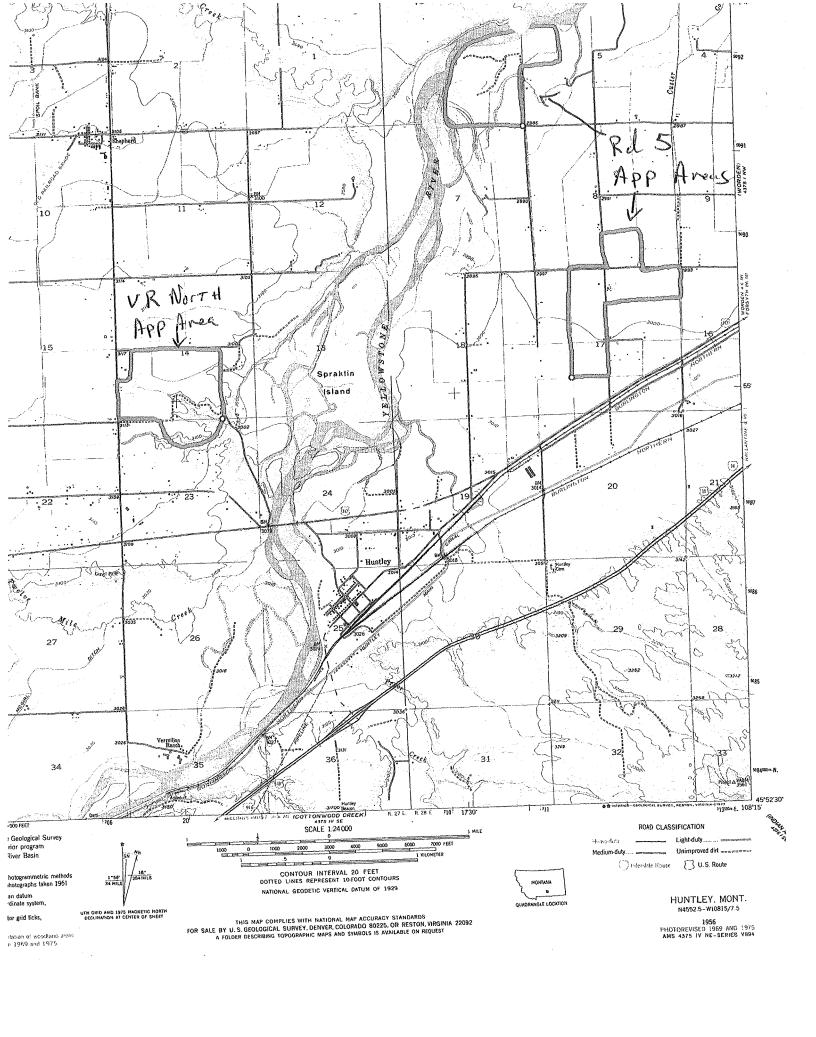


Calibration of Rear Discharge "Box" Spreader if Capacity is Unknown.

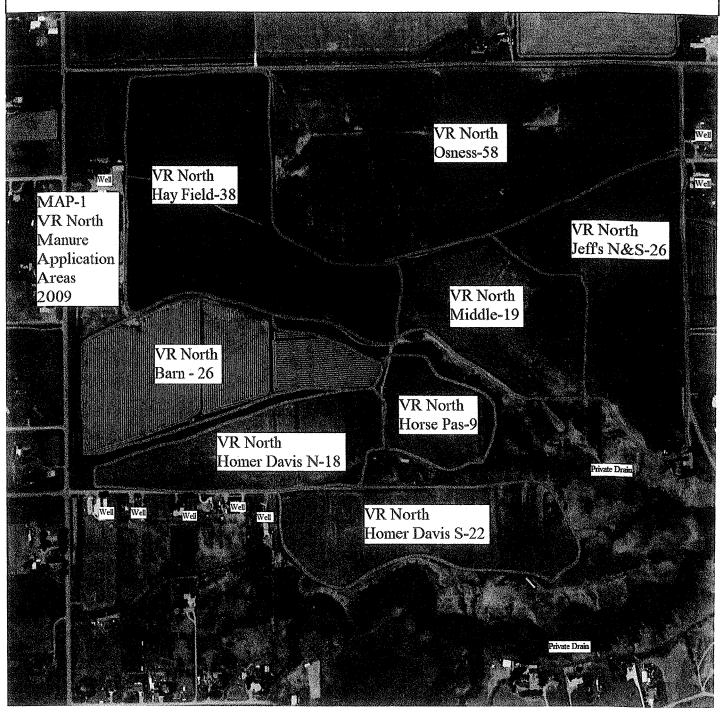
- Cut three or more sheets of equally sized plastic. 22 square feet (3' x 7'4" or 4' X 5'6") is preferred
- Weigh empty 5 gallon bucket plus one plastic sheet on a scale: ଚ୍ଚି
- Lay sheets in field with edges secured by stones or other heavy objects
- Drive tractor at normal speeds and discharge manure at typical rates over plastic sheets Record tractor gear: , engine RPM: _, and spreader settings:



- Net manure weight for Bucket 1: lbs. Bucket 2: lbs. Bucket 3: င္တ
- Calculate average weight of buckets
- Average Net Manure Weight:
- If plastic sheet = 22 ft2, then Tons per Acre = Net Manure Weight Calculate application rate. Tons per Acre = (Net Manure Weight X 22) + area of plastic sheet (ft²)



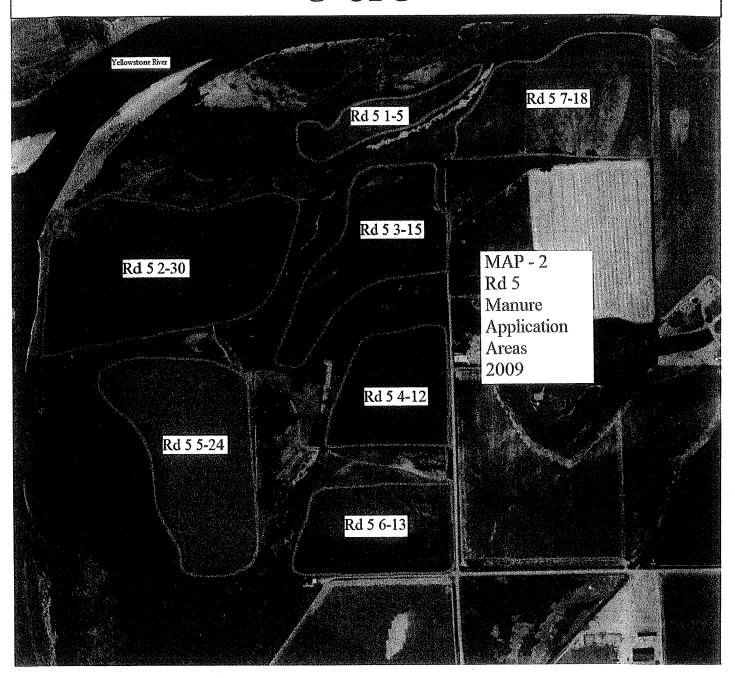
PAYS Manure Application Area 1 of 3

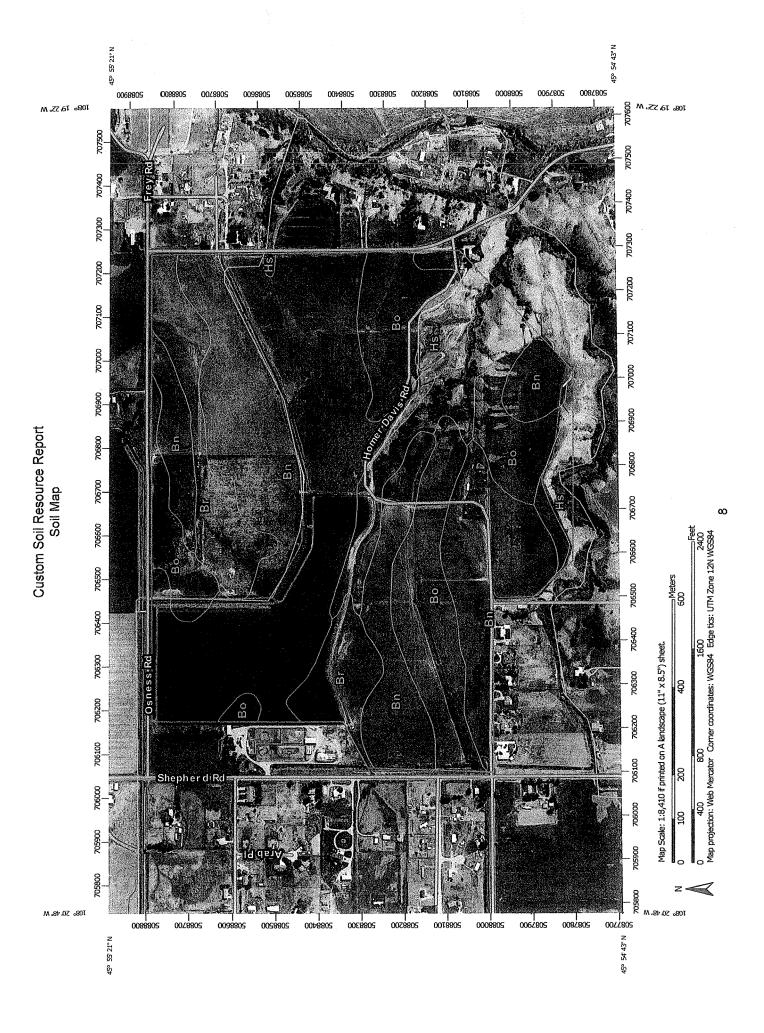


PAYS Manure Application Area 2 of 3



PAYS Manure Application Area 3 of 3





Map Unit Legend

Yellowstone County, Montana (MT111)					
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI		
Bn	Bew clay, 0 to 1 percent slopes	143.7	57.6%		
Во	Bew clay, 1 to 4 percent slopes	52.5	21.1%		
Br	Bew-Allentine clays, 0 to 1 percent slopes	25.6	10.3%		
Hs	Hilly, gravelly land	27.6	11.1%		
Totals for Area of Interest		249.4	100.0%		

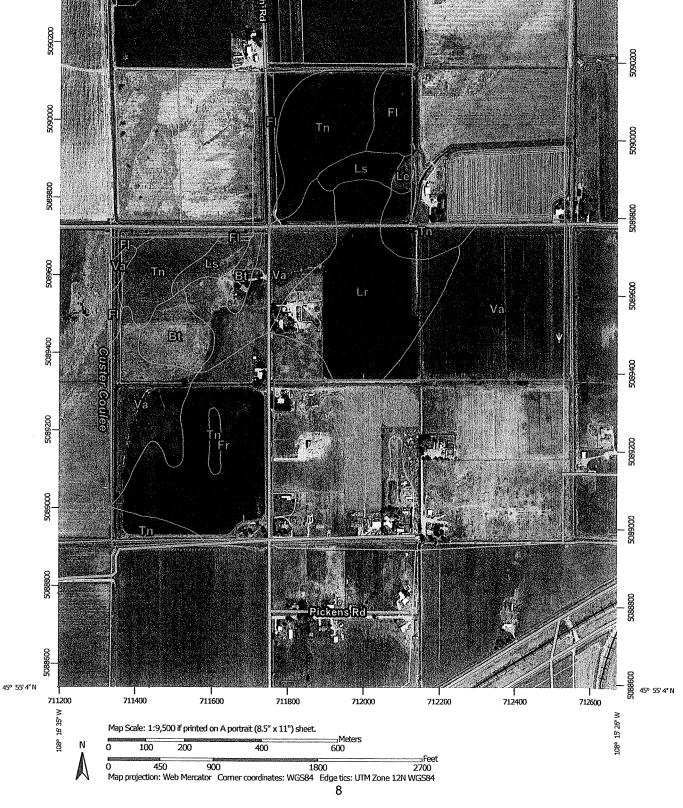
Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments



Map Unit Legend

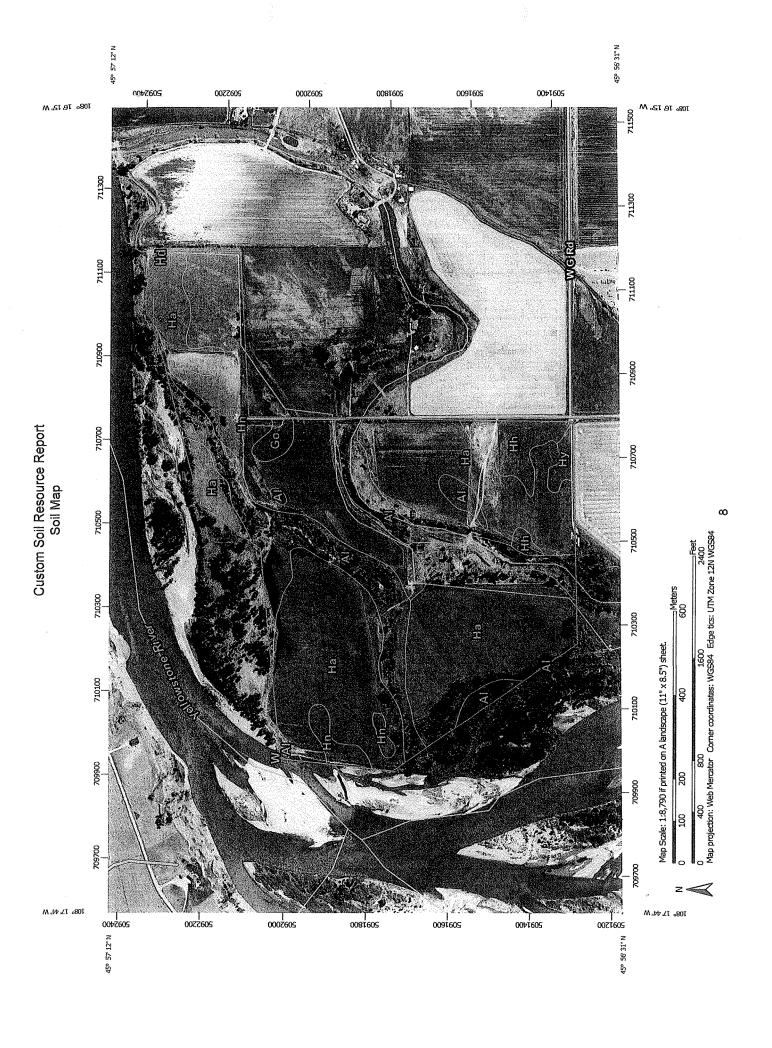
Yellowstone County, Montana (MT111)						
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI			
Bt	Bone silty clay, 0 to 1 percent slopes	9.2	4.6%			
FI	Fort Collins-Arvada clay loams, 0 to 1 percent slopes	12.5	6.2%			
Fr	Fort Collins and Thurlow clay loams, 0 to 1 percent slopes	35.5	17.6%			
Le	Larim loam, 0 to 4 percent slopes	1.0	0.5%			
Lr	Lohmiller silty clay, 0 to 1 percent slopes	32.6	16.2%			
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	6.5	3.2%			
Tn	Toluca and Wanetta clay loams, 0 to 2 percent slopes	35.0	17.4%			
Va	Vananda silty clay, 0 to 1 percent slopes	69.2	34.3%			
Totals for Area of Interest		201.6	100.0%			

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Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the



Map Unit Legend

Yellowstone County, Montana (MT111)					
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI		
Al	Alluvial land, mixed	33.0	19.3%		
Go	Glenberg loam, 0 to 1 percent slopes	1.7	1.0%		
На	Haverson loam, 0 to 1 percent slopes	94.3	55.1%		
Hd	Haverson silty clay loam, 0 to 1 percent slopes	0.2	0.1%		
Hh	Haverson-Hysham loams, 0 to 1 percent slopes	6.4	3.8%		
Hn	Haverson loam, gravelly variant, 0 to 1 percent slopes	34.1	19.9%		
Ну	Hysham-Laurel silty clay loams, 0 to 2 percent slopes	1.4	0.8%		
W	Water	0.0	0.0%		
Totals for Area of Interest		171.2	100.0%		

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

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